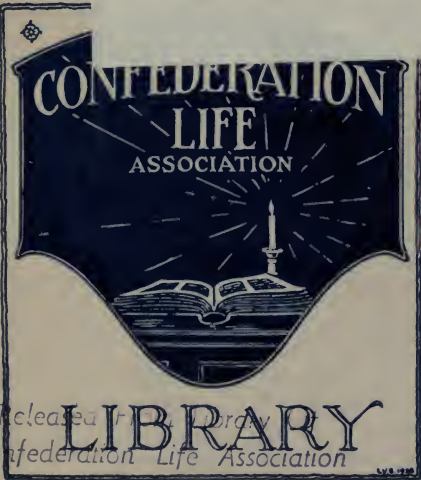






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A PRACTICAL TREATISE

ON

**BENEFIT BUILDING SOCIETIES**

AND

**LOCAL ENTERPRISE ENCOURAGEMENT COMPANIES.**

With Appendices on { BUILDING COMPANIES AND SUBURBAN VILLAGES,  
IRISH LAND TENURE AND IMPROVEMENT,  
EMIGRATION AND COLONIZATION SOCIETIES,  
TONTINE ASSOCIATIONS,  
THE DOCTRINE OF COMPOUND INTEREST, MATHEMATICAL AND  
PRACTICAL, &c.

*Also an Alphabetical Digest of Building Society Law, numerous Tables,  
Acts of Parliament, &c.*

BY

**ARTHUR SCRATCHLEY, M.A.,**

*One of the Actuaries authorised (1846) to certify Friendly Societies; formerly Fellow and  
Sadlerian Lecturer of Queens' College, Cambridge;  
Corresponding Member of the Royal Commission of Belgium on Statistics  
Author of the Treatise on Life Assurance, Reversions, and Friendly Societies, &c.*

**Fourth Edition.**

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## PRELIMINARY REMARKS TO VOL. I.

I. IN the First Edition of this work, which was published in the year 1847, we undertook, mainly, to examine the characteristics of Benefit Building Societies, which were, then, all established on the *Terminating* System, and endeavoured, while pointing out and classifying errors of practice and theory into which the majority had fallen, to \*lay down principles which might serve as a guide to the correct formation of future societies, and as the basis of some consistency in their subsequent operations. We desired also to urge, upon the Managers and Directors of many that were already in existence, the necessity of turning their attention to the errors described, and of taking such measures as might be calculated to remedy the evil, by introducing judicious alterations into their rules and rates of subscription, or by making such other improvements as would be likely to avert from the societies confided to their care the disastrous termination, which they could not otherwise avoid. We recommended, also, the new system, we had devised, of associations on the principle of *Permanent* existence.

It is gratifying to observe, that this effort to raise the standing of a class of institutions so eminently philanthropic has been generally successful. A great many new associations have been formed since 1847, upon sound and equitable principles ; while the managers of others, of some years' standing, have manifested considerable readiness to attend to the suggestions offered to them, and have sought to improve the defective portions of the constitution of their respective societies.

They have seen that it is better to meet the difficulty, whilst the effects of erroneous systems are still young, and before the mischief produced has become insurmountable ; and it is no slight justification for praise, that, on being called together and informed by their Managers of the impracticability of their fulfilling, as the associations were then constituted,

\* Preface to First Edition.

the original letter of promise, the members, in most cases, have consented to steps being taken for the introduction of sound principles, although their previous expectations were thus disappointed.

A great number of Terminating Societies have, consequently, been converted into Permanent associations; and rules and tables have been adopted, by which all previously existing and subsequent members are placed on the same footing as if the new clauses had been in force from the beginning. The legal impediments, which borrowers might have thrown in the way of improvement, have been obviated by due care having been taken that the conversion should proceed in so impartial a manner, that neither their just interests should be disregarded, nor their cause favoured to the disadvantage of the general body.

This was all the more necessary, as several societies, that have been converted without proper precaution in this respect, have become involved in litigation, with its consequent endless expenses, which might have been easily avoided if the requisite conditions had been attended to at the time of the conversion.

II.—In the present Edition, opportunity has been taken to insert a concise Alphabetical Digest of the leading Law Cases on the subject of Benefit Building Societies, not so much with the view of furnishing a Law Book as with the object of giving the general reader such an idea of the present state of the Law of Building Societies, as will enable him to estimate the importance of the Amendments necessary therein.

In the first place, consolidation and codification are very much required. The unfortunate provision of the Building Societies Act of 1836 (s. 4) by which all the clauses of the old Friendly Societies Acts are incorporated with it, but only so far as they are applicable to the purposes of Building Societies, has introduced much complication and uncertainty. Those Acts have since been all repealed as far as regards Friendly Societies, but their obsolete and inconvenient provisions still apply to Building Societies. Thus the rules of Building Societies still require to be deposited with the Clerk of the Peace, while those of Friendly Societies have merely to be deposited with the Registrar. Again, till lately, that excellent and learned official was of opinion that the dissolution of Building Societies might be arranged according to the plan prescribed for Friendly Societies by the old Act of 10 Geo. 4 (1829): but recent decisions would seem to show that that clause is one of those

not "applicable to the purposes of Building Societies," which are bound to adopt the costly process of registration and winding up as Public Companies under the Act of 1862.

III.—It is also an imperfection in the Building Societies Act that the *Limit of Shares* is fixed at £150, and that of Subscriptions at £1 a month. If the intention of the framers of the Act was to limit the whole interest that a member might hold to £150, which is quite possible, however absurd, that intention has been defeated by the very proper decision in *Morrison v. Glover* (see p. 89) that a member may hold any number of shares, provided the amount of each share does not exceed £150. In general, the greatest present value advanced on a share of the amount of £150 in a Terminating Society would not exceed £70 or £80, and with so small a sum scarcely a hovel could be purchased.

Again, by \*Section I. of the Bankruptcy Law Consolidation Act, 1849, all previous enactments giving a priority to particular creditors over a bankrupt's estate were repealed, and this put an end to the privilege of *prior claim* possessed both by Friendly and Building Societies under the 4 & 5 Wm. IV., c. 40. A later section of the same Act (167) restored the priority as far as regards Friendly Societies, but by an oversight (for it is hardly likely that the Legislature intended it) omitted to do so with regard to Building Societies.

IV.—Provision should be made for enabling a Building Society, under certain restrictions, to *Borrow money*. Until within the last few years, the Registrar did not object to certify Rules which conferred a power to borrow on the Trustees or Directors of a Society:—but having obtained an opinion from Lord Westbury, when Attorney General, that such Rules were not "in conformity with law", Mr. Tidd Pratt ceased to certify them. Lord Westbury, no doubt, considered that it was not the intention of the Legislature that a Society should pledge the credit of its members for money borrowed, even for the extension of its business:—but it is evident that a well constituted Building Society would be very materially assisted, especially in its earlier years, before the Investing

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\* [On this point the reader should consult the very valuable manual on the Law of Building Societies by our learned friend, Mr. W. Whitaker Barry, of Lincoln's Inn. As several passages of his work are identical with portions of this Treatise, it may be desirable to explain that they were incorporated by Mr. Barry from the early editions of this work with our consent.]



Subscriptions have amounted to any large sum, by being able to take sums on deposit upon fair conditions as to notice of withdrawal, &c. As the whole funds of a Building Society are invested in Loans upon tangible property, depositors have the very best security for their money, and Bankers and others are in ordinary times quite willing to lend to Building Societies at rates as low as  $4\frac{1}{2}$  or 5 per cent. The Societies lend again to their members at 6 or 7 per cent, and are thus able to make an additional margin of profit for their Investing Shareholders. With or without legal authority, therefore, Societies gladly accept deposits; and in one large Society in London, the deposits received in a single year have reached the large amount of half a million sterling. Under the existing Law, the Directors who are parties to the transaction are of course personally responsible, should the funds of the Society not enable them to repay the Loan, and, as the profits go, not to them, but to the general body of members, the Law in this respect certainly requires amending.

At the same time, there is no obstacle, under the present law, to receiving Deposits in the form of Shares; for which purpose we prepared the following Clause, which is adopted by many recently formed Societies:—

“The shares shall be of the ultimate value of £                      each, realizable by a monthly payment of                      , and of such other amounts, and realizable in such periods of years, and in consideration of such single or periodic payments, as the Board of Directors from time to time deem fit.”

It will be observed that the deposit receipts, being in the form of Paid-up or Realized\* shares, the restriction is met of Section 1 of the Act as to the payment of dividends.

By way of example:— Suppose £25 to be tendered to a Building Society on deposit for the term of three years at  $4\frac{1}{2}$  per cent. interest, the Society would issue a Paid-up Share Receipt for £25, reciting that it was withdrawable at the end of the agreed period, but bearing interest in the meanwhile at  $4\frac{1}{2}$  per cent. by way of Bonus.

V.—When the Building Societies Act was framed (1836), the system of *Freehold Land Societies* had not been invented (1847): and the Act, therefore, contains no provisions such as are required to meet the

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\* [By some Societies, these are termed Preference Shares: by others, Debenture Shares.]



peculiar circumstances of these Societies. Many of them have, in consequence, since the passing of the Limited Liability Acts, (1856, 1862) become incorporated as Joint Stock Companies:—and those, which continue to act as Freehold Land Societies under the Building Societies Act, do so under circumstances of personal responsibility to the Directors and risk of loss which hamper their operations.†

In any future Act, therefore, Clauses should be introduced enabling a Society to purchase Land in gross, for allotment among its members at wholesale prices, and to permit of the building of school rooms, &c., at the general cost of the members having allotments, in connection with Suburban Villages so formed.

VI.—It is not alone, however, from legal difficulties that Freehold Land Societies have suffered. The apparent success, which attended the operations of a few of the earlier and more cautious Societies, created a popular current in favour of Land Investment. This led to the formation of nearly as many Freehold Land Societies as there were previously Benefit Building Societies. First success is not, however, always followed by caution; and bubble associations speedily came into temporary existence, involving errors only veiled by a long and glittering array of names of members of both Houses, which are rarely wanting when political constituents are to be pleased or conciliated. Indeed associations are frequently brought into life by the success of some principle under special circumstances, but a fatality seems to attend those designed for the Industrious classes; thus, ere long, objectionable features have been introduced, and imperfections become manifest in Freehold Land Societies, which are productive of dissatisfaction to the members, and of regret to the admirers of the system. Very many Societies have been founded on such unsound principles, and with such disregard to practical correctness in their Rules, that the reverse of advantage has arisen to the Borrowers from their purchases, or to Investors from their deposits. On the other hand, even in those Freehold Land Societies that were established with a political object, and whose operations have been of great

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† [Notwithstanding these disadvantages, Freehold Land Societies have made remarkable progress. There are stated to be in Birmingham six, with an aggregate of 14,973 members, and a Capital exceeding £500,000. The Conservative Land Society has bought 70 estates exceeding 500 acres in extent. The National Freehold Land Society has accumulated a Capital of £689,575, and works in conjunction with the British Land Company, which has an additional Shareholders' Capital of £140,000.]

magnitude, the members appear to have forgotten their original aim, and are now only ambitious of the pecuniary profits which the assumed success of the society induces the Directors to declare.

VII.—A speculation in land, moreover, arose, which, from injudicious management, led Societies to compete with each other, and tended extravagantly to raise the price of land in various parts of the kingdom. It is even affirmed that persons, having estates to sell, resorted to the most influential Directors of certain Societies and asked them to act as their agents in disposing of the land to the members, however indifferent its situation or nature.

Although we can scarcely believe that, in the truly respectable Societies, land can have been allowed to be sold at unfairly high prices, yet it is a fact, that, from the species of speculative mania which existed unchecked by the Directors, large tracts of land, valuable only for agricultural purposes, were purchased and cut up into uselessly small allotments, for which one set of members, with no reasonable prospect of turning them to account, were unreflectingly led to give such high building prices as enabled the Society to declare considerable profit to the other members. Instances, in fact, constantly occurred of purchases being made by persons solely in the hope of a resale at an advanced price.

A case came under our attention, where an allotment of badly situated, ill-drained land, several feet below high water mark, and worth a year before scarcely £30 the allotment, was purchased for a Society, and apportioned to the members at £55 per lot; and yet other parties were found, attracted by illusive statements, who, without visiting the locality, offered £15 more, in the expectation of large profits to arise from building thereon.

Little difference in fact can be observed between the operations of some Societies, and the results of the mania for railway shares.

Again, where the land is intrinsically advantageous, the allotments are frequently valueless to the allottees from their being too far from their places of residence to be made available. Good building land also remains unused, or is let at the comparative low price of pasture or grass land, because the allottee has not the money to build thereon, and most of the older Freehold Land Societies cannot make advances for that purpose.

VIII.—The relation of Building and Freehold Land Societies to the *Elective Franchise* affords another instance in which amendment of the

law is to be desired. The Court of Common Pleas has decided (*Copland v. Bartlett*; *Beamish v. Stoke*; see page 95) that a borrower from a Building Society must possess land of an annual value exceeding his annual repayments by 40s. in order to be entitled to a vote for the county in respect of it. This is a disability which does not affect borrowers by private mortgage. A statement put forward by the Halifax Building Society sets this forth very clearly:—

“A is the owner of Real Property, producing £6 10s. a-year. He is *not* a Member of a Building Society, but mortgages his property to a private person for £60, upon which he has to pay 5 per cent. interest, or £3 per annum. A, having 40s. clear, is entitled to be put on the Register (although his debt is unredeemed).

B is also the owner of Real Property, producing £6 10s. a year. He is a Member of a Building Society in respect of one share, upon which he has to pay to the Society subscriptions for a term of years amounting to £6 10s. per annum, for principal and interest. As the entire payment exhausts the income from the property, B is held not entitled to be put on the Register,” though, as a portion of B’s payments consists of return of the capital lent, he possesses a larger actual interest in the property than A does in his.

IX.—In addition to the above, the following further amendments of the existing law are also desirable—

1. To enable one Building Society to transfer its business to another, and to facilitate amalgamations of Societies by that means as permitted to Friendly Societies by the more recent acts..
2. To enable the Registrar to nominate or confirm the appointment of some proper person, to act as Receiver of the repayments of the unexpired mortgages of a Society that desires to discontinue its business.
3. To enable a Society to change its seat of business from one county to another.
4. To allow of advances being made on real or leasehold security, with the collateral security of policies of assurance.
5. To cause Societies to deposit with the Registrar yearly reports and balance sheets, and to comply with any orders of Parliament for returns, under penalties in case of neglect.

X.—The passing of the Companies’ Act, 1862, has created so many facilities for effecting the objects of Building and Investment Societies and other advantageous purposes of local improvement and development in country towns, by means of Joint Stock Companies, that we have



thought it desirable to add some practical suggestions and a form of prospectus for establishing a system of *Local Enterprise Encouragement Companies* on the Credit Mobilier principle. We pointed out the advantage which would attend the application of this principle to local wants as far back as the year 1852, when we devised the plan now again set forth in the present work; and it may be remarked that the warnings, we then put forward (repeated in the Treatise on Savings Banks, 1860) as to the danger attending large central combinations of the kind in the metropolis as distinguished from local organisations, have been amply justified by recent disasters in the financial world.

XI.—With this subject is intimately connected that of *Crédit Foncier* or *Land Credit Associations*, the principle of which has been found beneficial in Prussia, Poland, Bavaria, Hanover, and many of the smaller German states. It was introduced into France by Napoleon III., in 1852, when President of the Republic, and is now recognised by statutes in England (1863-4-5).

Its object is:—firstly, to mobilize the soil, so as to give it a transferable species of credit which can be used and transferred like a bill of exchange; and secondly, to facilitate the liquidation of mortgages on land by gradual instalments.\* The reader, who is interested in the subject, should peruse the *Mémoire* (1848) of M. Wolowski on the organisation of the *Crédit Foncier*, and the Manuals of M. Le Hir (1852) and M. Emile Berés (1853), which contain much valuable information as to Land Credit Banks. The system of the *Crédit Foncier* of France, which we personally examined in 1853, did not for a long period meet with the success it deserved. This arose mainly through the opposition of the provincial notaries, whose profits in conducting advances on land it tended to diminish. Of late, however, its business has experienced remarkable extension, and in the single year 1863 its mortgage loans for long terms of years amounted to more than £4,300,000 sterling, producing a net profit for the year of £200,000, of which a large portion was very prudently added to the Reserve Fund, the directors quoting the maxim that “large reserves make solid companies.” The report of M. Josseau to

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\* [M. Albert de Montry, in his evidence before the Conseil d’Etat, and in a valuable brochure, “*Du Pret et du Crédit Viager*,” proposes to supplement the operations of the *Credit Foncier* by a system of mortgages at rates of repayment fixed to cease at the death of the borrower, on our plan of Freehold Assurance (1852). See Treatise on Associations for Provident Investment.]

M. Dumas, Minister of Agriculture (1851), should be consulted ; as also M. Royer's work on the Institutions for Land Credit in Germany, and the admirable suggestions of Mr. Vincent Scully, for a new Land System.

Mr. Scully remarks that it is a most idle illusion to imagine that a sound measure to facilitate Transfer of Land can ever tend to its undue subdivision, to give an improper impulse to democracy, or to affect injuriously the aristocratic element of these kingdoms. Such a measure would produce the very opposite results. Should the occasion arise, it will be easy to demonstrate that the free Sale and Purchase of Land can lead to no over-population of a country, or *morcellement* of its farms. It would have a highly preservative tendency, and would stabilitate a territorial proprietary, whilst admitting all industrious classes into either a present or a prospective participation in the ownership of Land.

Mr. Scully's suggestions have recently been partially carried into effect by the passing of the "Mortgage Debentures Act," 1865, by which companies possessing or dealing in land are enabled to issue debentures, and a system of registration is provided : but the restrictions which the legislature thought fit to attach to this valuable privilege are so onerous that as yet it is believed only one company has been able to avail itself of the Act.\*

XII.—A model set of Rules suitable for Building or Freehold Land Societies will be found in our "Treatise on Copyhold and Church Lease Enfranchisements."† The cognate subjects of *Tontine Associations* and *Emigration Societies* are considered at length in the other portions of our larger "Treatise on Associations for Provident Investment."

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\* [The following are instances of power to grant Land Loans in force before the passing of the general Act above mentioned:—In ENGLAND; Land Drainage Company's Act, 12, 13 Vict. c. xci.; Copyhold Enfranchisement Act, 15, 16 Vict. c. 51; Land Improvement Company's Acts, 16, 17 Vict. c. cliv. and 1864; Land Loan and Enfranchisement Company's Act, 23 & 24 Vict. c. clxix.—IRELAND; Land Drainage Act, 5, 6 Vict. c. 89. s. 100; Farmer's Estate Society's Act, 11, 12 Vict. c. cliii.; 14, 15 Vict. c. cxliii.; Sir J. Romilly's Securities for Advances Bill of 1850.—CHANNEL ISLANDS; See Duncan's Guernsey, p. 286; Berry's Guernsey, p. 177; Plee's Jersey, p. 251; Le Cras's Laws of Jersey, p. 324; V. Scully on the Channel Islands, p. 64.—EUROPE; See "Land Credit Companies of Prussia," by W. Pollard Urquhart, M.P. (1853); Jacob's Tour of Poland (1826); and as to Belgium, Hamburgh, Frankfort, and parts of Germany, see evidence of Mr. James Stewart and Mr. John Stuart Mill, before the Commons Savings' Committee of 1850.]

† [4th Edition, 1859.—Laytons, 150, Fleet Street. Price 3s. 6d.]



XIII.—The power of Association, which, in the present day, is becoming so well understood, is applicable, of course, to numerous other purposes besides those discussed in this Treatise; and we have endeavoured, in our other works, to explain the principles upon which other associations should be established or conducted.

The arguments, adduced in support of our views respecting the institutions specially examined in this part, are, however, applicable to any other, in which it is desired to settle upon a sure basis the relative position of its members. The truth of the remarks of the eminent philosopher, Rossi, is now recognized.

“L’association est un instrument, une arme de la plus haute puissance.”.....“Le progrès social ne peut consister à dissoudre toute association, mais à substituer aux associations forcées, oppressives, des temps passés, des associations volontaires et équitables.”.....“Tout peuple, chez lequel peut se réaliser cette haute combinaison de la puissance individuelle avec le principe d’association, est entré définitivement dans la carrière de la *Civilisation Progressive*.”\*

XIV.—In conclusion, we desire to impress upon our readers, that the establishment of such associations and companies, as are considered in the present work, can only lead to satisfactory results, and avoid reacting, by failure, as a check upon the continuous energy and forethought of the industrious classes, through the managers constantly bearing in mind, that, even when the broad principles of a system are definitively settled, the details are far from being unimportant; that it is quite possible to ruin the most carefully constructed plan by committing apparently trifling errors in its execution; that the inconsistencies and objections to many of the existing associations, which are examined in this Treatise, are easy to obviate, as their prevention lies entirely within the province of the parties who are charged with the management of the society’s operations; and that our object is not only to expose errors, but to direct attention to the principles of the plans themselves, as containing materials for improvement, which may be made beneficial to the community at large. With the lamented economist, M. Frederic Bastiat, we would say “†Aux douleurs de la concurrence l’humanité apprend, chaque jour, à opposer deux puissants remèdes: la Prevoyance, fruit de l’expérience et des lumieres, et l’Association, qui est la Prevoyance Organisée.”

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\* *Cours d’Economie Politique*, Tome 2.

† *Harmonies Economiques*.

## PART I.

## ON BENEFIT BUILDING SOCIETIES.

*'The subject of this work has presented difficulties of a complicated character, from the various phases under which the peculiar defects of individual societies appear. The task has, however, been lightened by the reflection, that, although it cannot be expected that this effort, to place them upon a more rational and secure footing, will meet with the success of wholly obviating errors for the future, yet a most important end will at once be obtained, if the attention of the Patrons, Trustees, Directors and other officers of many of these institutions, be awakened to the sense of the grave moral responsibility incurred by them, in allowing their names to be connected with schemes, which, while professing to benefit, do but cause injury to those, for whose good they were designed,—to individuals not of equal information and position with themselves, but a class remarkable for the simple faith with which they believe in any statement, that is sanctioned by the countenance of their superiors.'*—  
[Extract from preface to first edition.]

## CHAPTER I.

ART. 1.—AMONG the remarkable features of the present age, Benefit Building Societies occupy a leading position. Their increase, during the last thirty years, not only in the metropolis, but in every part of the kingdom, has been steadily progressive, so that it has become a matter of importance to many and of interest to all, correctly to understand their object and the true principles on which they ought to be founded. This information is the more desirable, as the amount subscribed to these associations is already so large, that they may be said to have engaged in their operations a considerable portion of the investing capital of the industrious classes. But, although they have received this extensive support, it is painful to find, that many societies are guided by principles, which cannot, either in theory or practice, justify the hope of their realising the advantageous results held out as an inducement to parties to become members.

That the principles of Building Societies should be erroneous, and yet that their popularity should be widely extended, may be ascribed to two causes. As yet, but few persons of sound mathematical knowledge or experience in calculations have turned their attention to the subject, and the societies hitherto formed have been deprived of that basis of science

and just reasoning, which alone can ensure the prosperity of this or any similar kind of speculation. On the other hand, the members of these associations have, in general, been led to expect from them an unreasonable degree of benefit—a false impression, which has been shared even by persons of the more educated orders.

2.—A Benefit Building Society, when properly constituted, is a species of joint stock association, the members of which subscribe periodically, and in proportion to the number of shares they hold, different sums into one common fund, which thus becomes large enough to be advantageously employed by being lent out at interest to such of the members as desire advances; and the interest, as soon as it is received, making fresh capital, is lent out again and again, so as to be continually reproductive. Large sums may be raised in this manner; for example, if 1000 shares were subscribed for at 10s. per month per share, the amount in one year would be £6000, which, month by month as received, might be advanced to any members, who wish to become borrowers. The payments of BORROWERS are so calculated as to enable them to repay, by equal monthly or less frequent instalments, within a specified period, the principal of the sum borrowed and whatever interest may be due upon it throughout the duration of the loan. The other members who have not borrowed, and who are generally called INVESTORS, receive, at the end of a given number of years, a large sum, which is equivalent to the amount of their subscriptions with compound interest accumulated upon them.

The idea of a society upon this principle, correctly formed and afterwards properly managed, is of the most admirable kind. For on the one hand, it holds out inducements to industrious individuals to put by periodically portions of their income, which are invested for them by the society, and, at the end of a certain time, are repaid to them in the shape of a large accumulation, without their having themselves the trouble of seeking for suitable investments; while on the other hand, the money subscribed, being advanced to some of the members enables them to purchase houses, or similar property, and to repay the loan by small periodical instalments, extended over a number of years.

The gentle compulsion to investing members of the fines, which enforce punctuality of contribution, is not without its value as tending to form habits of economy and regularity.

3.—As regards the purchasing of house property, Building Societies are peculiarly beneficial. A large portion of a man's income is usually absorbed by the payment of rent, especially among the lower classes, who pay for their tenancy much more heavily than the rich, considering the relative value of the houses which they occupy. It has been



justly said, that every one knows something of the ultimate cost of hiring furniture for his house or lodgings ; he knows that it is much more advantageous to the hirer of furniture to buy the articles outright than to pay continually for their use ; and, therefore, most prudent people in the middle and humble walks of life, make it a rule to purchase their own furniture and other articles of domestic comfort and convenience, because the price paid for long hiring is at least equal to the original value of the article hired. Yet there are many thousands of persons in the Metropolis alone, who, while they deem it an unwise extravagance not to purchase their articles of household furniture, are quite content to hire their homes.

4.—It is, however, only by means of these societies that a person, not possessed of capital, who merely receives his income periodically, can become possessor of a house. This he is enabled to do from the practical fact, that the annual repayments, required by a society upon a loan, do not much exceed the rent of a house, which could be purchased with the sum borrowed (after a short period of saving as an investing member); so that a man living 10 or 14 years in a house, instead of paying his rent to his landlord and thus losing so much money for ever, pays it with a small addition to a Building Society for a limited number of years, and in consideration of this arrangement, the society advances him at once the money requisite for the purchase of the property, which thus in the stipulated time, when the loan has been repaid with interest, becomes entirely his own, the money advanced being in the meantime secured by a suitable mortgage.

5.—Such is the simple outline of the plan pursued in the practice of Benefit Building Societies, and if efficient means be provided for securing correctness in their principles of calculation and a fair and honourable way of carrying out their object, these institutions must undoubtedly be considered as an excellent application of the system of mutual association. A private individual usually finds it impracticable to obtain an advantageous accumulating interest for the smaller sums, which he can spare from his necessities. He has no means of procuring satisfactory information respecting the adequacy of any security contemplated for his investment, nor is he in the way of hearing of remunerative opportunities, which present themselves from time to time.

An association, however, of provident persons can command all that is wanting to the single member ; and, although the trifling contribution of each by itself would be too small to be capable of reproductive investment, yet, when united with others in a large sum, it becomes a proportionate participator and has its representative in the aggregate profits of

the general body. Moreover, when there exists a variety of amount of talent and capital, their union for the purposes of carrying out the same design facilitates and renders possible its accomplishment. The efforts of a body of men in pursuit of a good object are generally successful, whether they endeavour to attain for themselves definite and tangible results by the operation of great commercial enterprises, or whether they combine with the provident desire to avert, as far as possible, the pecuniary loss, to which the death of any individual among their number would expose the members of his family. As an application of the former species of association, though in a limited degree and among humble classes, Benefit Building Societies have proved a remarkable illustration of the great advantages conferred by the working of this principle, but they are yet so obscured by defects and errors, as to require the application of many improvements, both in their system and practice, to prevent them from sinking into disrepute.

6.—The first Benefit Building Society\* which can be traced, was founded in 1815 under the auspices of the Earl of Selkirk. It was a village club at Kirkcudbright in Scotland. Other institutions of a similar kind were afterwards established in the same kingdom under the title of 'Menages,' and the system was soon adopted in England by societies formed in the neighbourhood of Manchester and Liverpool, and other parts of the North. After the year 1830 they increased so rapidly, that on the 14th of July 1836, a special act (6 & 7 William IV, cap. 32) was passed for their encouragement and protection, in the provisions of which were embodied certain clauses applicable to their conduct, which were included in the statutes relating to Friendly Societies, passed in the reigns of George IV and William IV. As a proof of their numbers it may be stated that up to the present time, there have been registered in the united kingdom considerably over 7,000 societies, and that they are increasing every year. Of these societies, there is evidence to show that above 3,000 are yet in existence, the total income of which is calculated at

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\* [It may be observed that this title, which is in the Act of Parliament, and has become sanctioned by general usage, is not accurately descriptive of the nature of these societies, as few of them enter into building operations. They are really Investment and House-and-Land Loan Societies. Mr. Henry Tompkins, in a valuable work published several years ago, remarks that the original plan of Building Societies, before the passing of the Act of 1836, was to purchase a plot or plots of land, with or without some tenements upon it; and after it had been built on at the Society's expense, the said tenements were allotted, and mortgaged to the Society in some instances, or let to members, or others, at a fair rental, and this mode of operation was carried on until every member was in possession of a freehold estate, or had received the amount of his share in full. This plan was extensively adopted for a considerable period with success, in spite of the obstacle that it had no legal recognition.]



not less than £9,500,000 a year. In fact there are several whose annual incomes exceed £100,000.\*

7.—The Act of Parliament just mentioned bears the designation of “An Act for the regulation of Benefit Building Societies,” and was passed for the express purpose of encouraging the formation of such institutions, by granting them various privileges, among which is the power of charging a higher rate of interest than was formerly allowed; while, to protect their subsequent operations, it enacted, that each society should be governed by certain rules, to be approved of, and so certified, by a barrister appointed by Government.

It seems to have been overlooked by the legislature, that societies of this kind would be exposed to more serious danger than ever, when thus encouraged by a special act, if the rates of subscription were left unguided by any advice or check furnished by competent authority. By far the greater number of the earlier building societies were founded on incorrect principles of payment, and evinced on the part of their originators much ignorance, even of the simplest operations of compound interest. In some instances the statements put forth were very extravagant, and it would not be easy to account for the confidence with which they were received, except on the ground that a species of fascination for this kind of investment seemed to possess the minds of the industrious classes; and even persons of superior position, who would be expected to have more information, united in giving their sanction to the error, for it has been found that† no Benefit Building Society has ever been started, however ridiculous its pretensions, which has not speedily succeeded in drawing together a number of shareholders.

8.—The tone of moderation assumed in many of the prospectuses (proceeding in some cases, from an honest conviction on the part of their authors), was but too well fitted to gain the confidence of single-minded persons: it was not unusual to find some impossible project represented

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\* [The annual receipts from contributions of the Leeds Building Society amount to £151,292. The number of members is 7047. The amount advanced to borrowing members £826,112. (Seventeenth year, 1865.) The Temperance Building Society (London), has lent more than £500,000. The contributions received by the Queen's Building Society, Birmingham, during the *fourth* year of its existence (1865), amounted to £53,890. The borough of Sunderland, which has 103,000 inhabitants, possesses 60 Building Societies, of 13,401 members, with a realized capital of £1,768,025, having trebled their capital since 1859. The Birkbeck Building Society (London), received in deposits, during 1865, £492,789, and in subscriptions £30,975, and lent out upon mortgage £76,750. The income of the Standard Building Society, Edinburgh, for its eighth year, amounted to £127,289.]

† [Of the class of Societies, the unsoundness of which is explained in Art. 44, chap. 3, nearly 100 have been started in the metropolis alone, and it is stated that they have enrolled about 40,000 members.]

as "no speculation—no scheme, by which uncertain results are to be obtained, but a sober, well-tried, and successful mode of associating together a number of persons for the benefit of the whole," and then, although it was deemed unnecessary to give the ground upon which their promises were founded, they sheltered themselves beneath the mantle of legislative sanction, and adduced the Act of Parliament as being "of itself sufficient evidence of the favourable opinion entertained by Government of their Society." It cannot be wondered at that statements, advanced in such language as this, and supported by so high an authority, too frequently gained the confidence of the public.

9.—Nor is it thus only that the legitimate object of Building Societies has been perverted. In order to render the scheme popular and attractive, its projectors in many cases did not content themselves with promising to the poor but industrious man the privilege of becoming the possessor of a house by easy means; but unhappily infused into him an eager desire to obtain a disproportionate amount of gain in his purchase. Hence it comes to pass, that, instead of his feeling a lively satisfaction, at being able to get possession of his house by the payment to a society of very little more than the amount of his rent during a reasonable number of years, he has been taught to believe, that this important advantage can be obtained by means and within a period of time, which common sense ought to have suggested as impossible.

Whilst this attraction was held out to the borrowers, a similar sacrifice of principle was made to the investors, or non-borrowers, who were promised large accumulations at the end of a limited number of years, in return for disproportionately small monthly subscriptions. The same prospectus frequently contained these incompatible statements, and yet the subscribers believed with implicit and blind faith in the virtues of a scheme, into the practicability of which they did not trouble themselves to enquire. They lost sight of the fact, that, in saving a little money they were but providing against misfortunes and the exigencies of life: that facilities for the investment of their savings are only valuable, in so far as they increase their means for that purpose, and that, not for one moment, should they labour under the delusion that, by joining this or that association, their fortunes can be made without trouble. Such hopes cannot receive too strong a check, as they give rise to ideas, which lead the working classes beyond their sphere, and incapacitate them for the exertion necessary to maintain them in it, and thus cannot fail to induce misery and disappointment in the end.

10.—In addition to the discouraging effect produced by the errors introduced into so many societies, there are other obstacles to their

complete success, that arise from the imperfection of the Act of Parliament relating to them. In the presence, however, of these objections or difficulties, it may confidently be affirmed, that the introduction into this country of the system of Building Societies has been accompanied by very happy results in promoting habits of economy and prudence among the poorer classes.\* Much good has been obtained by their enabling so large a number of persons to become possessors of houses and land,

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\*[Inspired by the hope of realising a property, and so far achieving independence, the workman scarcely needs any incentive to shrink from all kinds of expenditure not absolutely necessary. Old indulgences are relinquished, economic habits are formed, and devoting every spare sixpence to the liquidation of the debt on his property, he looks with absolute derision on the weakness of consuming even so much as a quart of beer in the public-house. Never was there such an auxiliary in the cause of temperance as these land and building societies. To those who know English workmen and their buoyancy of feeling, it will not be thought strange that members of these societies should occasionally indulge in a little pleasantry on the subject of drinking. One may be heard calling to a thirsty friend as he sees him issue from a tavern: "Ah, Tom, I see you have been drinking a yard of land this morning." Others, in reply to an invitation to have a taste, will say: "Thank you; not a foot of land shall go over my throat."—See *Social Science Tracts*, by W. Chambers, No. 5.]

The operation of Building Societies may be made much more effective than at present for the improvement of Industrial Homes. An interesting work recently published on the "homes of the working classes," affords particulars of efforts in this direction made by Mr. Akroyd, M.P., and Mr. Crossley of Halifax. The problem which Mr. Akroyd set himself to solve was—"How a limited outlay of capital may materially assist in raising the standard of workmen's houses in any locality to an extent far beyond the original capital employed." His plan was to purchase a suitable plot of land for a building site; to obtain designs from an able architect for building blocks of dwellings, eight or ten to each; and to find parties who were willing to take up each successive block, forming themselves into a building association for that purpose, in connection with the Halifax Permanent Benefit Building Society, which would advance three-fourths of the capital required. Mr. Akroyd not only purchased the land, provided plans, and defrayed all the expenses connected with the contracts and supervision, &c., but where the purchaser is of good character, and unable to advance the one-fourth of the purchase-money, the payment to the building society is spread over 15 years instead of 12, and Mr. Akroyd guarantees the first three years' subscriptions to the building society: the society requires only this guarantee, as, after three years, it possesses sufficient security against loss, in the mortgage of the property. The number of dwellings erected at the commencement of the year 1866 was 38; including a large and commodious store, the property of the Halifax Co-operative Society.

The scheme of Mr. Crossley is somewhat similar to that of Mr. Akroyd. His object was to encourage thrifty artisans, clerks, and others to obtain freehold dwellings for themselves. He purchased a very eligible plot of land in the suburbs of Halifax, and he offered premiums for the best designs for laying out the land and for the houses in each class of dwellings. The number of classes was four. The net cost of the houses in Class 4, inclusive of land, street, and sewer formation, legal and architect's expenses, has been about £160 for each house. The houses and land, &c., in class 3, cost about £270 each; the internal finishings and external treatment of these latter being superior to class 4. £320 is the estimated cost of the houses in class 2; and £500 for those of class 1; these are intended for foremen and the higher paid class of clerks. Space is reserved for schools, &c. The dwellings have the advantage of being pleasantly situate in the upper part of the town of Halifax, and close to the beautiful park given to the public by Sir Francis Crossley, Bart., M.P. 62 houses have been already erected.]



which, on the conclusion of their payments, they occupy free of rent, and can transmit as a little property to their families. This pecuniary interest serves at once to bind them to the soil and to promote a feeling of love and veneration for the national institutions of their country.

The fact that Building Societies have suffered little, if at all, from the several severe financial and commercial panics, which have been experienced since their introduction, speaks highly for the general soundness of the principle on which they are based, and for the character of the members they attract.

11.—Yet it is remarkable that this excellent principle has been completely overlooked by a class of persons, in more easy circumstances, to whose case it would admit of more ready and certain application. There are a vast number of professional men, and others engaged in commercial pursuits, with ample means, who continue for years to pay away large sums in rent, without reflecting, that, by uniting together in the formation of a superior kind of Benefit Building Society, they would be able to realise additional property for their families, with but little extra outlay. Such a society would also offer another channel for temporary investment to many non-commercial persons of the higher classes, who would be willing, as Investors, to lay out, from time to time, comparatively small sums of money at advantageous interest.

12.—Hitherto the money accumulated by these associations has been devoted mainly to the purpose of enabling members to become purchasers of houses and land, or similar property; yet, as far as the principle is concerned, there is no reason why it should not be applied to other objects, provided the investment obtained be equally safe. Illustrations of this kind will be found in Part II. and in our larger Treatise, where we suggest a plan for a Building Society, the shares of which, by the adoption of a combination of Life and even Fidelity Assurance, could be made payable at the end of a definite number of years, or sooner in case of death; while, at the same time, they might serve as security for the fidelity of the possessor, when holding a situation of trust.

Other useful applications of Benefit Building Societies may be enumerated as follows:—

- 1st.—*Provisions for Old Age* may be secured, payable at the end of any number of years, by a person joining the society as an investor.
- 2nd.—Houses can be *purchased*, instead of being hired, by an inconsiderable increase of annual outlay.
- 3rd.—Heads of large commercial establishments and ministers of parishes may, by affording encouragement, advice, and protection in the formation of such societies, secure more benefit for their dependents and the humbler members of their charge, than can be obtained by any effort, however extensive, of private charity.



4th.—Leaseholders, such as farmers and others, desirous of providing for the *fine* on renewal of their leases (if for terms certain), can do so by joining a society as investors, and subscribing for such number of shares (to be received in full at the required time) as will meet the amount desired. This obviously would be to many an easy mode of providing for what is now often felt to be a difficult and onerous charge.

5th.—The premiums or Fees for placing boys as apprentices or articulated clerks to solicitors, engineers, &c., can be obtained in a similar way.

6th.—*Marriage and Family Endowments* of all kinds can be secured.

7th.—Benevolent Institutions and Religious Societies can borrow funds for the erection of churches, alms houses, schools, chapels, &c., or for the immediate paying off of debts, and the amount borrowed can subsequently be repaid by charitable contributions periodically collected.

## CHAPTER II.

### ON THE NATURE OF THE OPERATIONS OF COMPOUND INTEREST.

“L’Intérêt est le loyer d’un Capital prêté, ou bien, en termes plus exactes, achat des services productifs que peut rendre un Capital.”—*Say, Economie Politique*, Tom. ii, p. 480, Ed. 4<sup>eme</sup>.

ART. 13.—PREVIOUSLY to describing the theoretical construction of a Benefit Building Society, or any other similar association, a few remarks will be necessary respecting the principles of compound interest, on which the rates of subscription are supposed to be based, so that the general reader may be enabled to judge of the manner in which the advantages to be derived from these institutions are attainable, and to appreciate the influence, which the practical contingencies, examined in the succeeding sections, may be expected to have on the results produced by a mere theoretical investigation of the subject.

It would be irrelevant to the object of this work, to enter into the doctrine of interest further than is necessary to elucidate and explain the nature of Benefit Building and other Investment societies; we shall therefore confine ourselves to a few general outlines and illustrations. The reader, who is desirous of more extended information, is referred to Treatises specially devoted to the science, and to the Mathematical Appendix at the end of this Volume, where he will find the subject treated analytically.

## INTEREST OF MONEY.

14.—It is the custom in all civilized countries, that one person borrowing a sum of money from another, should pay him periodically for its use a certain consideration under the name of Interest. This consideration varies in amount according to the nature of the security given for the loan, the state of public monetary affairs, and occasionally other circumstances. In order to simplify commercial transactions and establish a standard of measurement for them, annual rates of interest have been formed, varying from £1 upwards for every £100 borrowed. This interest, although specified nominally as an annual rate, is payable at such regular periods as are agreed upon, either by annual, half-yearly, or more frequent equal instalments, each periodical payment being, however, always proportional to the annual rate.

The rate of interest, that a lender may legally demand or receive for the use of his money, was formerly limited in England to five per cent. per annum, although special exceptions were made for the investments of building societies and similar institutions. It does not seem clear for what reason the rate of five per cent. was selected as the limit allowed; and the growing opinion that the existence of such a limit was the occasion of more injury to commercial affairs, amidst the fluctuations of public confidence, than it had produced good by the restraint imposed upon usurious practices, gave rise in 1853 to the repeal of all Laws against usury.

## SIMPLE AND COMPOUND INTEREST.

15.—In treating of the advantage derived by investing money, it is important to distinguish between Simple and Compound interest.

If the sums received by the lender from time to time on account of interest are placed by him in similar investments, as so much new capital, it is obvious that he not only realises interest on the sum originally lent, but also on *its interest*, thus increasing materially the advantage produced by his money, for which he is consequently said to be receiving *compound interest*.

The same would be the result, if the borrower, instead of actually paying the interest when it became due, were allowed to increase his debt thereby, with the understanding that the whole should be paid off in one sum at the end of the time for which the loan was made; the borrower undertaking to place his creditor in the same pecuniary position as he would have been in, had the instalments of interest been actually paid periodically and themselves reinvested.

If, however, instead of supposing the interest, which should have been paid from time to time, to be reproductive, the borrower were only bound

to pay the sum of the periodic instalments on the original amount lent, without anything additional for their non-payment at the epoch when they became due,—then he is said to be paying only *simple* interest; for example :—

Suppose £100 were borrowed for four years at the annual rate of five per cent. simple interest, which is to be paid at the end of the fourth year with the loan, then the amount payable at that time would be £100 and four times £5, or altogether £120.

16.—The way *compound interest* accumulates will be seen by the following example :—Suppose A lends B £1000, for fourteen years, at five per cent. interest, payable annually at the *end* of each year. At the end of the first year A receives from B £50 for interest, which he reinvests by a further loan to B, or to some other party. The amount altogether thus lent is then £1050. At the end of the second year A receives £52. 10s., as interest at five per cent., which he again lends out immediately, making his total investment £1102. 10s. At the end of the third year the interest received upon this loan of £1102. 10s. is £55. 2s. 6d., which, being also lent out, causes the total sum reinvested to be £1157. 12s. 6d., on which, at the end of the fourth year, A again receives interest, and so on, until the end of the period, the advantage derived from these repetitions of investment increasing every year.

In this example we have seen that the lender in three years clears £157. 12s. 6d. in the shape of interest on the £1000 originally lent, which is £7. 12s. 6d. more than he would have obtained by *simple interest*. In the same way if we refer to Table 4, which is formed on the above considerations, it is found that at the end of fourteen years the £1000 would amount to £1979. 18s. of which £979. 18s. arises from compound interest, being £279. 18s. more than at simple interest.

17.—As in the practice of the societies which form the subject of this work, interest is always supposed to be compound and not simple, we will confine ourselves to remarks on the various results appertaining to the realization of the former, premising that whenever the *rate* of interest is mentioned, it always signifies the *yearly* rate, whether it be actually paid once in the year, or in portions at more frequent intervals.

18.—Respecting tables of interest and the preceding example, it should be observed, that the calculations are only true, supposing the money, which is received yearly, or otherwise, as interest, to be *immediately* transferred to some investment producing the same rate of interest, and in as frequent instalments as the original investment did. The loss of a day falsifies the calculations, and neglect of this most important consideration is the cause of the frequent discrepancies which are seen between



valuations made on theory, and those consistent with the circumstances of actual practice.

19.—In commercial transactions, interest is more frequently due half-yearly than yearly, and sometimes quarterly or monthly, which materially increases the amount to which a sum of money will accumulate in a given time, since the instalments of interest are then susceptible of more frequent investment themselves, as so much new capital bearing interest. One instance will prove this :—Suppose £1000 were lent for one year at five per cent. rate of interest, payable *half-yearly*. At the end of six months the lender receives half a year's interest, or £25. This, if invested immediately, will itself produce, in six months, 12s. 6d. interest, or the lender will, at the end of the year, by his investment of £1000, have made 50*l.* 12s. 6*d.*, instead of the £50, which he would have received had the interest been payable yearly.

The greater advantage derived by the receipt of interest in equal instalments, more frequently than once a year, is shewn in Table 5, where is given the actual interest, realised 'at the end of a year, corresponding to various nominal rates, according as it is paid half-yearly, quarterly, or monthly, or even by shorter intervals of time. When interest is supposed due at the end of every moment of time, it is said to be *momentaneous*, and this hypothesis, to which other rates can be reduced, gives rise to several curious investigations, which are discussed at length in the Appendix. See also Tables 6 and 7.

20.—In cases where the *amount* of a sum is to be determined for a period of years beyond the limit of the tables which are used, the results given in them may yet serve for the purpose.

Example: suppose the amount of £100 in thirty years at five per cent. compound yearly interest is desired. Ascertain the amount in twenty-five years by Table 7, and then by rule of three determine what the sum produced at the end of twenty-five years will accumulate to in five years more; or what is the same thing, the amount of £1 in thirty years is equal to the product of the respective amounts in twenty-five and five years. The multiplication is very easy when decimals are used.

Thus in twenty-five years at five per cent. £100 amounts to 338*l.* 12s. 8*d.* Again in five years £100 would amount to 127*l.* 12s. 6*d.*, therefore in five years 338*l.* 12s. 8*d.* will amount to 432*l.* 3s. 10*d.*—or the amount of £100 in thirty years is 432*l.* 3s. 10*d.*, which is shown to be correct by Table 4.

The General Theorem is :—

*The amount of £1, in any given number of years, is equal to the product of the respective amounts of £1 in any two or more periods of years, into which the given number can be separated.*



## ON DISCOUNT AND PRESENT VALUE.

21.—If a person be entitled to a certain amount at the *end* of a given time, and wish in its stead to take its equivalent value at present, the sum, which he ought to receive, is termed the *present value* of the amount in question, and the difference between the two is called *discount*. The discount will be less or greater according as the sum due is discounted at simple or compound interest. In ordinary mercantile transactions, to avoid the necessity for tables, it is usual to charge a discount, equal to the simple interest on the whole debt, for the time that exists between the present and the day on which it is due. Thus if the amount be £100, and there remain two years before it is due, the discount at five per cent. rate of interest will be £10: for eighteen months it will be 7*l.* 10*s.* 0*d.*, and similarly for other periods. This is sufficiently accurate for the practical purposes of commercial affairs, and in fact is the only way in which the necessity for separate calculations on every occasion can be obviated; but for debts extending over a large number of years, such a method of computing the discount would give a result, which would be much too large. When money is correctly discounted at a certain rate of compound interest, the *present value* is such a sum as will, if invested at once at the same rate, accumulate at the end of the given time to the amount due.

Discount, therefore, being the inverse of interest, we have this fact, corresponding to the one mentioned art. 19, that:—The present value of a sum due at the end of a given time, is less in proportion to the greater frequency of the periods, at which the interest is supposed to be due.

Example: The present value of £1000, due in five years and discounted at the rate of 4 per cent. compound yearly interest, is 821*l.* 18*s.* 6*d.* But if the interest be calculated as due half-yearly it is 820*l.* 7*s.* 0*d.*, and similarly it is less if calculated as due quarterly or monthly.

Tables, which give the amounts to which a present sum will accumulate, will serve inversely to give, by rule of three, the present value of a sum due at the end of a specified number of years.

For if £100 amount at 3 per cent. yearly interest to 115*l.* 18*s.* 5*d.* in five years (see Table 4), then £100 is the present value of 115*l.* 18*s.* 5*d.* due five years hence. Therefore, by rule of three, 86*l.* 5*s.* 4*d.* is the present value of £100 due five years hence.

22.—*The important theorem in Art. 20 holds also for present values.*

23.—A table of present values is worth attention. (See Sec. 2 Appendix.) If two rates of interest be followed down the table, and the *difference* of the present values of £100, at those rates of interest, be measured, it

will be seen that there is a period, at which the difference attains a *maximum*. In other words, If one person A obtain a present loan or advance from another person B, in return for which he is to pay him a sum S in a certain number of years; and A, out of the money he has received, lends a smaller sum (though deducting a higher rate of interest) to a third party C, from whom in repayment he is also to receive a sum S, which will enable A to pay his debt to B: then the immediate profit derived by A will be greatest, if he select the proper term of years for his transaction.

#### ON ANNUITIES OR PERIODIC PAYMENTS.

24.—Having explained the operations, by which a *single* sum changes its value, under the influence of interest in the course of time, we will proceed to shew, what is the result, when several sums are taken together into consideration. **ANNUITY** is a term applied to the periodic payment of money at fixed intervals. It is said to be a yearly, half-yearly, quarterly, or monthly annuity, according as the periodic payments are made once a year, or in two half-yearly, four quarterly, or twelve monthly equal portions. Annuities are also termed *certain*, if payable for a definite number of years; but *contingent*, if their duration depend on adventitious circumstances, such as the existence of one or more lives, in which case they are called Life Annuities. We will confine our attention to the first kind, in which there are only two fundamental questions requiring special examination, from which every problem relating to annuities can be deduced, premising that, unless the contrary is stated, the annuities are supposed payable at the *end* of each year:—

First,—What sum an annuity would *amount* to at the end of the time of its duration, if each periodic payment were to be invested and to produce compound interest:

Secondly,—What *present sum* paid down is equivalent to an annuity payable for a given number of years:

These values will vary with the rate of interest supposed in the calculations, and also with the frequency of the intervals, at which the periodic payments of the annuity, or instalments of interest thereon, are supposed due. It is obvious, however, that, first:—The *amount* of an annuity, at the end of the time during which it is to continue, is the sum of the accumulations of each periodic payment, improved at compound interest, from the date at which each was paid or due, up to the time of the expiration of the annuity. And secondly:—The *present value* of an annuity is equal to the sum of the present values of each of the periodic payments, discounted at compound interest; each payment being separately discounted for the respective distance of time between the present and the date at which it is due.

25.—Since an annuity is strictly equivalent to its *Present value*, the party purchasing and the other selling being, as far as the mathematical considerations go, in equal positions; it follows, that the *Amount* of an annuity is exactly equal to the amount, to which the present value of the annuity would accumulate, if itself were invested and improved at the same interest, until the end of the given number of years.

Hence, when accurately calculated at the rate of interest agreed upon, the Amount and the Present value of the annuity are each exactly equivalent to the annuity itself, and are thus equally applicable to the affairs of life, the one being frequently exchanged for the other. Thus, a debtor may clear off a given sum now due, by paying to his creditor, either an equivalent annuity for a certain number of years, or its amount at the end of that time; and a land-holder, whose estate is charged with an annuity, can compound for it by giving a present sum in cash.

As an example:—referring to Tables 10 and 11, we see that at 7 per cent. rate of *yearly* interest, the present value of *£l. 8s. 0d.*, paid at the end of each year for ten years, is nearly *£59*, and also that the amount of *£l. 8s. 0d.* a year at the end of ten years is *116l. 1s. 2d.*; moreover Table 4 shews that the single sum *£59* improved at 7 per cent. compound interest for 10 years gives the same amount, proving that the three are equivalent to each other; or in other words, supposing two men each to undertake to pay *£l. 8s. 0d.* at the end of each year to a society for ten years, and that one desired to receive in return the present value of his ten years' payments, while the other determined to wait for his share until the end of the time, they would both be fairly treated, in respect of their subscriptions to the society, if the one received *£59* at once, and the other *116l. 1s. 2d.* at the termination of the annual payments.

The same reasoning applies to annuities of larger or smaller amounts for different periods of duration, and a society receiving, as in the above example, annuities from its members and paying to some their *present value* and to others their *ultimate amount*, is on the general principle of a Benefit Building Society.

26.—The whole theory of annuities cannot be explained without some analytical investigations, such as will be found in the Appendix. For practice, Tables 10, 11, and 12 may be used, in which are given, for various rates of interest, the amount and present value of an annuity of *£100*, payable at the *end* of each year, and the annuity which *£100* will purchase. These tables, however, will serve for annuities of other amounts, and they may be adapted when the annuity is paid at the *beginning* instead of the *end* of each year.

27.—If the annuity be supposed payable half-yearly or quarterly, or *monthly as in Building Societies*, some modification is necessary in the



tables, the nature of which is explained in the Appendix. But it is clear that:—A *smaller* annuity ought to be paid during a specified number of years, in consideration of a given present sum, debt, or purchase-money, in proportion to the *greater* frequency of the periods, at which the equal portions of the annuity are to be paid. Similarly:—The accumulated *amount* of an annuity, at the end of a given time, increases with the *frequency* of the intervals at which the instalments are paid.

28.—It will be observed that:—For a given annuity, the *amount* at the end of a given number of years will increase with the *rate of interest* at which the money is supposed invested. And inversely:—The *larger* the accumulation promised in return for the subscription of an annuity for a stated time, the *higher* will the rate of interest be, at which it must be invested. Hence, the first point to be thought of, when an accumulation is promised for an annuity paid, is:—Can the necessary rate of interest be obtained? Can every instalment of the annuity be immediately and continually invested throughout the whole time, at the rate required?

Thus for example:—£6 a year will amount to 82*l.* 18*s.* nearly, in ten years, at 7 per cent. rate of interest. But in order that £6 a year may amount to £120, the rate of interest required is  $14\frac{1}{2}$  per cent. (See Appendix.)

Again, that £6 a year may amount to £140, or £3 a year to £70 in the same time, the rate of interest required is nearly 18 per cent.

29.—The *number of years*, during which a given annuity is to be paid in return for a given present sum, debt, or purchase-money, increases with the *rate of interest* supposed to be paid. Inversely:—The advantage obtained by a borrower, who pays a certain annuity in return for a loan, diminishes as the number of years increases, Example:—If a borrower pay 8*l.* 8*s.* 0*d.* a year during ten years for a loan of £59, he is paying at the rate of 7 per cent. compound *yearly* interest, but if the time be increased to 13 years, the rate of interest will be about  $10\frac{1}{2}$  per cent.

30.—On comparing Table 4 with Table 10, it will be seen that *The difference of two successive values of the annuity-table of amounts is equal to the sum given in the table of single amounts for the lesser number of years.* Example:—

The amount of <i>an annuity</i> of £100	
in eleven years, at 5 per cent. =	£1420·67
Ditto ditto in ten years... =	£1257·78
<hr/>	
Difference..... =	£162·89
<hr/>	

which is the amount of a *single* £100 at 5 per cent. by Table 4. So that Table 4 might in fact be calculated from Table 10, if that were given.

The converse holds for *present values*, see Tables 9 and 11.



31.—If annuity payments be *deferred* for a few years, the *present value* and the *amount* of such an annuity can be easily deduced from the tables for immediate annuities. For instance, the present value of a *deferred* annuity of £1 for ten years, at five per cent., (the first payment to begin at the *end* of five years,) is equal to the present value of the *immediate* annuity:—*viz.*, £7·7217 for ten years divided by the *amount* of £1 for four years, or by £1·2155. The answer is £6·3527.

## ON THE DOUBLING OF MONEY.

32.—When a sum of money increases to double its value by the accumulation of compound interest, the analytical investigations assume a peculiar form, from which we have deduced the following theorems as bearing on the system of many Benefit Building Societies:—(See *Appendix*.)

1.—For all rates of interest not exceeding 10 per cent.:—*The number of years, in which a single sum will become double in amount by the accumulation of compound interest, may be found by dividing 70 by the rate of interest per cent., and taking that whole number which is nearest to the quotient obtained.*

\* The accuracy of this theorem may be judged of by Table 8, but the property is valuable as furnishing a simple rule and one easily remembered. Thus:—

If the rate of interest be 2 per cent. }		} then the number of years will be }	$\frac{70}{2}$	nearly = 35 years.
„	$2\frac{1}{2}$ „	„	$\frac{70}{2\frac{1}{2}}$	„ = 28
„	3 „	„	$\frac{70}{3}$	„ = $23\frac{1}{3}$
„	$3\frac{1}{2}$ „	„	$\frac{70}{3\frac{1}{2}}$	„ = 20
„	4 „	„	$\frac{70}{4}$	„ = $17\frac{1}{2}$
„	$4\frac{1}{2}$ „	„	$\frac{70}{4\frac{1}{2}}$	„ = $15\frac{5}{9}$
„	5 „	„	$\frac{70}{5}$	„ = 14
„	6 „	„	$\frac{70}{6}$	„ = $11\frac{2}{3}$
„	7 „	„	$\frac{70}{7}$	„ = 10
„	8 „	„	$\frac{70}{8}$	„ = $8\frac{7}{8}$ or 9 nearly
„	9 „	„	$\frac{70}{9}$	„ = $7\frac{7}{9}$ or 8 nearly
„	10 „	„	$\frac{70}{10}$	„ = 7

which agree with the whole numbers given by the table.

\*[M. Fedor Thoman, the editor of the last edition of “Inwood’s Tables,” with others, have made use of this original theorem in their respective works without acknowledgment.]

When the rate of interest is higher than 10 per cent., a larger dividend than 70 must be taken.

- 2.—The *amount of an annuity* of £1, in the exact time in which a *single* sum would double, is equal to £100 *divided* by the rate of interest per cent.

Thus, at 5 per cent. money will double in 14 years and a fraction, and £1 a-year for the same time will amount to £100 divided by five, or £20, which agrees with Table 10.

33.—From theorems 1 and 2 we have :—

- 3.—*If a sum of money be borrowed for such a time, that, if unpaid, it would become doubled by the accumulation of compound interest, then the debtor can liquidate his debt with interest in that time, by an annuity equal to twice one year's interest on the sum borrowed :—*If the time be a certain number of years and days, the last payment of the debtor will be a fractional portion of the year's annuity, proportionate to the fractional number of days.

Thus, if £60 be borrowed for 14 years 76 days, (which is the exact time in which money will double at yearly 5 per cent.,) then the debt can be repaid, including principal and interest, by an annuity for that time after the rate of £6 a year, since £3 is the interest on £60 at 5 per cent.

Again :—If £60 be borrowed for 10 years 90 days (the exact time of doubling at 7 per cent.), then a yearly annuity of 8*l.* 8*s.* for that time will repay principal and interest—4*l.* 4*s.* being one year's interest on £60 at 7 per cent.

If the above annuities were paid in *monthly* instalments of 10*s.* and 14*s.* the debts would be repaid in very nearly fourteen years and ten years respectively.

- 4.—The *interest*, at which money will double in a *given* number of years, is nearly equal to 70 divided by the number of years.

- 5.—If two equal sums be invested for the same time, the one at simple, the other at compound interest, the former will increase 70 per cent. in the time in which the latter will double ; or, whatever be the rate, the advantage in the time of doubling will be 30 per cent. in favour of compound interest.

34.—The results obtained by means of the above theorems become more accurate, when the instalments of interest or annuity are due more often than once a year, and, in the case of *monthly* payments, they are found to differ but very little from the real values. The exact degree of approximation afforded by these theorems we have examined in the Appendix, to-

gether with the *general extension, of which they admit, to the case of money increasing to several times its original value.* One is most important :—

If a sum of money be borrowed for such a time, that (if unpaid it would amount to  $f$ -fold its original value) then the annuity which would pay it off, principal and interest in that time, is equal to  $f$  divided by  $f$ , less one, times one year's interest on the debt. Or :—

*The amount of an annuity of £1 (accumulated at compound interest,  $i$  per cent., during the WHOLE time in which the single sum £1 would accumulate to £ $f$ ) is equal to  $\frac{£100(f-1)}{i}$*

35.—The Appendix also contains other theorems, which have been deduced, relating to various interesting points in the working of Compound Interest. The results in some instances, however, are obtained only by the aid of analysis of a somewhat high order. At the end of the practical Section 4, will be found the \*Formulæ for calculating tables for the allowance of interest, in case a society undertake to receive occasional *deposits*, with power to the depositor of withdrawing the whole or part of the sum, under certain conditions.

### CHAPTER III.

#### ON BENEFIT BUILDING SOCIETIES AS ORIGINALLY CONSTITUTED.

##### SECTION I.

##### *The theoretical principles of a Terminating Society.*

[‘ *A minute inquiry into the various systems of these associations has confirmed an opinion, suggested by previous experience, that, among other defects, one stands prominent as the fatal obstacle in the way of their success, arising from the almost universal condition, by which the existence of a Benefit Building Society is limited to a specified number of years.*’—See Preface to First Edition of Treatise on Building Societies.]

ART. 36.—Benefit Building Societies are generally founded with the same object, but carried out with various modifications. They are now divided into two distinct classes : the one *terminating*, the other *permanent*. A terminating society is one, which it is intended to close at the end of a certain period, when all the shares of the members have realized their full amount. In a permanent society it is merely the membership of a shareholder that terminates at the end of a fixed number of years, (when he receives the full value of his shares,) the society itself continuing. Whichever system be adopted, the object of a Building Society is still the same, namely, as we have stated in Chapter 1, to enable individuals to associate together and unite their subscriptions from time to time in one common fund, some for the simple purpose of placing a portion of their incomes in an advantageous investment, others with the view of borrowing money, by which they may purchase houses or other similar property.

But, in order that one man may borrow, there must be others who lend. To induce a person of limited means to lay by periodically a portion of his income merely as an

\* [The principle referred to is analogous to the feature of Life Assurance denominated “*Deposit-Assurance*,” which was introduced by the Author some years ago.]



investing member, some strong incentive must be held out, and the only one that has been found successful, is to offer him a high rate of interest for the use of his money. The legislature, being aware of the force of this consideration, and of the importance of removing any obstacle at that time existing, passed the Benefit Building Society Act of 1836, in which the following clause was specially introduced :

“ And be it enacted, That it shall and may be lawful to and for any such society to “ have and receive from any member or members thereof any sum or sums of money, “ by way of bonus on any share or shares, for the privilege of receiving the same in “ advance prior to the same being realized, and also any interest for the share or shares “ so received, or any part thereof, without being subject or liable on account thereof, “ to any of the forfeitures or penalties enforced by any Act or Acts of Parliament “ relating to usury.” So that, in other words, the society might charge its borrowing members, under the name of bonus, any rate of interest upon a loan which it might deem advisable ; and though this clause is now rendered unnecessary by the repeal of the Acts relating to usury, it serves to show the intention of the legislature.

37.—In this chapter we shall examine the character and deficiencies of Terminating societies, and in the next enter upon the question of the merits of their successors on our principle of Permanence.

The majority of the terminating building societies announce at the time of their formation, that their shares are a fixed sum, usually £120, to be realised at the expiration of a given number of years, by which time, it is expected, the association will terminate with that result. The number of years is generally 10 or 14, although some societies exist whose expected duration is 11 or 13 years, and some in which the amount of the shares is £50 or £100. The subscriptions of the members are a few shillings a month per share, varying with the number of years calculated as the probable duration of the society, but not allowed by the statute to exceed 20 shillings per share, and the Investing or non-borrowing members are promised the amount of their shares at its close. The subscriptions are received at monthly meetings, and, with as little delay as practicable, are lent to those members, who wish to become Borrowers, and to obtain a loan in the shape of a present advance on each share they hold or take up, in lieu of the amount, which they would otherwise receive at the end. The sum advanced per share of course depends upon the number of years, that remain between the time of borrowing, and the date at which the society is expected to terminate.

38.—To explain this we will take an example ; but it must be first remarked, that, in most of the associations at present existing in the United Kingdom, which have any principle of reasoning for their guide, one of two rates of interest has generally been adopted as the basis of their calculations ; their expected duration being consequently different. These rates are 5 or 7 per cent. per annum ; but the interest, though taken at a nominal annual rate, is supposed to be realised at the end of each month, instead of at the end of each year. In practice many difficulties, to which attention is drawn further on, oppose the actual realisation of interest monthly ; yet, for the purpose of an example, the question may be treated theoretically, as if no such impediments were in existence.

Let the case be that of a 14 years terminating society, formed on a basis of 5 per cent. rate of interest, and consisting of shares of £120 each, on which every member pays 10s. at the beginning of each month, during 14 years. This sum is assumed, because such a monthly annuity would, at 5 per cent. rate of interest *supposed realised monthly* and continuously invested and reinvested, accumulate to £120 at the end of nearly 14 years ; hence £120 is the amount that a non-borrowing member would be entitled to receive at the close of the society.



On the other hand it is known, that £60 cash, invested at 5 per cent. rate of compound *monthly* interest, will accumulate to £120 in nearly 14 years. If then a member should wish to discount one share and take its present value at the beginning of the society, he would be entitled to receive £60, in consideration of his subsequent monthly payment of 10s., or £6 a year for 14 years. Similarly, should he desire to borrow £300, or 5 times 60, he would have to make payments on 5 shares, amounting to £30 a year.

As the society progresses in its existence, the number of remaining months, over which a borrower's payments can extend, diminishes; so that the amount of advance per share, which a member would be entitled to receive, if he wished to borrow at a later period of the society than the beginning, would depend upon the date of his first becoming a subscriber. If he had entered only just before receiving a loan, the amount of advance per share would merely be the discounted present value of his future payments; but if he had been a subscriber for some months previously, then, in addition to the allowance for his future subscriptions, he would also be entitled to a sum arising from his past payments.

Thus, for example :—In the 14 years society in question, a member whose subscriptions are 10s. a month, or £6 a year for each £120 share, if he wished to borrow in the first month of the 7th year and had been a subscriber from the beginning, would receive 42*l.* 1*s.* 1*d.* on account of his past payments during six years, and 38*l.* 19*s.* 8*d.* in consideration of his future subscriptions, making altogether 81*l.* 0*s.* 9*d.* We quote one of the societies on this plan, but this can easily be proved correct by means of a monthly compound interest table.

But if the borrower had only just become a member at the beginning of the seventh year, and did not pay up any arrears or back subscriptions, he would merely be entitled to 38*l.* 19*s.* 8*d.* as an advance, in consideration of the payment of £6 a year, to be made by him during the remaining 8 years; and, under such circumstances, it is seen by rule of three that to obtain a loan of 81*l.* 0*s.* 9*d.*, he would have to pay 12*l.* 9*s.* 6*d.* a year during the 8 years. So that in fact, the *nearer* a member, at the time of his first joining, or taking up the required number of new shares, and then borrowing, is to the epoch at which the society is expected to close, the *larger* will be his payments in return for a given loan. As a second instance, it would be found that, although a member, who borrowed £300 at the commencement, would merely pay £30 for 14 years, yet, if he took up the shares at the beginning of the 9th year and obtained the same loan, without paying up any arrear-subscriptions, he would then have to pay 59*l.* 18*s.* for the remaining 6 years. Such a high rate of repayment becomes very inconvenient to members of limited means, who wish to borrow money for the purchase of house property, not at the beginning, but, when they have for some time been members; and the difficulty increases more and more, with the progress of the institution.

39.—The preceding is an example at 5 per cent. Societies formed upon the basis of 7 per cent. rate of interest are expected to last only 10 years, and on this supposition there exist a great many. The amount of the shares to be realised, at the end of such a period, is usually, as before, £120, for which the members pay 14*s.* a month for 10 years. This rate of payment is adopted, because such a monthly annuity would amount to £120 at the end of nearly 10 years, supposing each monthly payment *immediately*, as it is received, invested at 7 per cent. compound interest, calculated also as realised *monthly*.

Again :—since £60, if similarly invested at 7 per cent., would, with its accumulations from compound interest, amount to £120 at the end of nearly 10 years, it is obvious that a member effecting a loan upon a share at the beginning, and receiving £60 as its

present value, would be in an equitable position with regard to a non-borrowing member, who waited for the full value of his share or £120, at the termination of the society.

40.—Other associations exist founded on other rates of interest, as 6 or 8 per cent., and of different expected periods of duration. The principle of calculation, however, is the same, and the same remarks apply to all, whatever be the rate adopted. The intention of each is to give to the investors the amount of their shares in full, at the close of the number of years representing the probable duration of the society; and throughout its existence to invest the funds, from time to time as collected, in the shape of discounted advances to any of the members who wish to borrow. The amount of advance per share being supposed proportionate—*First: to the number of years or months that the borrower has already been a subscriber; and Secondly: to the unexpired time, which remains between the epoch, at which he obtains the loan, and the expected date of the termination of the association.*

41.—Such is the system of the superior class of terminating Benefit Building Societies, but it must not be supposed, that all or even the greater number were established on such accurate principles of calculation. This unfortunately was not the case. By far the majority were based on rates of subscription fundamentally unsound, and, in their subsequent dealings, both with the investors and borrowers, proceeded on assumptions, which cannot be justified by theoretical or practical reasoning. Of this the next section will contain a few instances, which prevailed in several hundreds of the societies established at an early period, and are selected not as being by any means the most extravagant of the number, but simply from the extent to which they were adopted.

The defects\* in most cases are so numerous and varied, and in each individual society so interwoven one with another, that it will be necessary for the better separation of ideas, and in order to enable the reader fully to understand the details into

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\* [In the State of Massachusetts, Building Societies have been in operation some years under the title of Loan Fund Associations, but as most of them are founded on the terminating principle, their career has not been prosperous. The Insurance Commissioners of the State, who are charged with supervision of these institutions, made the following remarks, in their Report of 1862 :—

“There seems at present no probability that the number of these organizations will increase. Most of those now existing will soon close by their own limitation, and perhaps the rest will also cease from the fact that their structure is not stable enough to stand the pressure of these times. In a few years they may be remembered by some only as a scheme by which sharpers absorbed the money of the simple, and by others as an unsuccessful if not an unfortunate experiment.”

The Commissioners, however, proceed to remark, “That in spite of the inherent defects of these Associations, and the abuses in practice, they have had a large degree of usefulness, and have demonstrated, perhaps even better than if they had been better constructed, the value of the principle of repaying loans by small monthly instalments. It has been impossible for us to ascertain with exactness, but we have no doubt that by means of them not less than one thousand families in Massachusetts now enjoy homes of their own, who would otherwise have been rolling about as tenants from one landlord or boarding-house to another, or have left the State in disgust to find a home in the wilderness. Though the machinery has not worked smoothly, it has turned out an article of inestimable value.”

Twenty-eight of these Societies are still in existence, having lent £670,000, and having lost only £3,000 upon realization. The largest amount lent to one member in any Society is £2,350; and some have never lent more than £200. The aggregate existing capital of the several Societies is £160,000: and the annual expenses of management, £3,000.]

which we are about to enter, that we should endeavour to introduce some classification among them. The chief heads under which they may be resumed are as follows:—

- 1.—Inaccuracy in theory: such as erroneous rates of subscription, &c.
- 2.—Practical causes, which nullify the results obtained from accurate theory: such as loss of interest, the expenses of management, &c.
- 3.—The *pecuniary loss* inseparable from the condition of termination.
- 4.—The great *inconvenience* caused to individual members by the terminating system: such as the difficulty of withdrawing at the time when a member may desire it, or of effecting the redemption of a mortgage on equitable terms, &c.
- 5.—Losses through mismanagement: viz., From inattention to the sufficiency or soundness of security accepted for investment; or, from the consequences of inaccuracy in balance sheets, &c., &c.

Some of these defects will be explained by themselves in the next section; others, to avoid the necessity for subsequent repetition, will be considered by way of contrast in the chapters, which treat of the advantages of the permanent principle and the practical working of building societies.

## SECTION 2.

### \* *Societies on erroneous principles.*

42.—*First instance*:—Societies have been established, proposing to last 10 years only, and sometimes for a less period, the shares of which are £120, and the payments of the investors 10s. a month: that is to say, for a subscription of £6 a year during 10 years, or a total payment of £60, a member is promised £120 at the end of that time.

Now, in order that the payment of £6 a year may accumulate with compound interest to £120, in the course of 10 years, a rate equivalent to  $14\frac{1}{2}$  per cent. yearly interest must be realised; and unless the subscriptions are continually invested and re-invested at this rate, the promised results are impossible; of this the reader may satisfy himself by referring to the mathematical appendix.

The borrower's repayments, however, do not bring into the society a higher rate of interest than 7 or 8 per cent., and in some cases much less; for the same prospectuses state, that if a member desire an advance in the first year, he will receive £60 on each share, (sometimes only £55,) in return for which he will have to pay 14s. a month, or 8l. 8s. 0d. a year, for the 10 years, the extra 4s. being usually charged under the name of redemption fee. A reference to a compound *monthly* interest table, will shew that the actual interest produced by these repayments, which include principal and interest, is between 7 and 8 per cent. per annum. The advances also, made in the second and subsequent years of the existence of the association, are in the same proportion;—consequently, the subscriptions of the members are incorrectly calculated to the large amount of nearly 7 per cent. annual rate of interest, even although the borrowers pay so high a rate as 8 per cent. Hence it follows, *that the promised results cannot be realised.*

\* The attention of Trustees and Directors is requested more particularly to the remarks contained in this section.



The above assumes that the monthly receipts are also re-invested monthly. Such in reality is not the case. Indeed, even if a society of this kind were to experience no pecuniary loss from any of the causes which will be examined further on, yet the result would practically be only as follows:—By Table 9, a yearly annuity of £6 invested continuously at 7 per cent. will accumulate to 82*l.* 18*s.* 0*d.* in 10 years; leaving a deficit of 37*l.* 2*s.* 0*d.* per unadvanced share, or nearly one-third of the promised amount, at the epoch of the expected termination of the society.

Again,\* even supposing the borrowers should unwittingly consent to pay 10 per cent. interest for their loans, there would yet be a deficiency of 24*l.* 7*s.* 6*d.*; since the amount of £6 a year in 10 years at 10 per cent. is only 95*l.* 12*s.* 6*d.*

This remarkable instance of inaccuracy of rates is the more worthy of notice, as it prevailed with various other less important errors in a very great number of Benefit Building Societies, and thus involved the pecuniary welfare of many shareholders.† There can be no doubt, however, that it arose entirely from ignorance, for the same

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\* [Unjustifiably high rates of interest were prevalent among many of the earlier societies, from a mistaken interpretation of the Rules, and much injustice is still occasionally committed by the same means. For example, in some associations, the borrowers pay interest at 4 or 5 per cent. on the amount advanced, pursuant to clauses similar to the following: *viz.*,

“PAYMENT OF INTEREST.

“1. That any member having received his or her share or shares, shall pay interest at £5 per cent. per annum, on the amount borrowed, by equal monthly payments, such interest to commence from the time the money is advanced or if the security for the same be not completed previously, then from the third month from the time of purchase, and to be subject to the same fines as for subscriptions in arrear.”

The obvious equitable interpretation of the preceding is, that the interest-subscription shall be after the rate of 5 per cent. on the *whole* sum borrowed, *diminishing*, if the debt diminish, in just proportion. For example, let the debt be £100; the borrower's payments would comprise the ordinary subscription, and £5 a year or 8*s.* 4*d.* a month, for interest. As, however, the principal of his debt is gradually liquidated in the period of the society's duration, it would not be fair to require him to keep on paying £5 a year for interest to the end; inasmuch as, in so doing, he is practically paying sums in interest which increase the rate from 5 per cent. up to 50 per cent. Yet this has been perpetrated in many societies.]

† [The following advertisement, extracted from a weekly periodical, will serve as a specimen of popular credulity:—

*Immense success of Mr. ———'s Building and Investment Societies.*

*£70 for every £30 Subscribed in a Fixed Term of Ten Years.*

**NOTICE.**—The Members of the ——— BUILDING AND INVESTMENT SOCIETY may now (the Second Year having terminated) receive the whole amount of their subscriptions with 18½ per Cent. per *Annum Interest* thereon. By order of the Board,

(Signed) ———, Secretary

*Important to Persons desirous of Purchasing House Property.*

£1,000 will be offered for Sale at the Second Meeting of the ——— BUILDING AND INVESTMENT SOCIETY, on THURSDAY EVENING, the 9th of May next, at half-past 7 o'clock.—*Interest payable by the Borrowers* from 1 to 5 per cent (!).—The whole amount of the purchase-money and law charges advanced by the Society.—No arrears to pay.—*Fixed to close in 10 years certain.*—Subscription, 5*s.* per Share per Month.

From the great number of Shares taken at the First Meeting, this Society will be closed after the 3rd Meeting.”]

prospectuses usually declared, that the annual rate of interest, charged from the borrowers, did *not exceed 4 per cent.* This last statement was possibly suggested by some misconception founded on the circumstance of the borrowers paying 4s. a month per share more than the investors.

43.—The *Second instance* is of a more complicated character, and was introduced with considerable pretension by its advocates as an improved plan of a Benefit Building Society.

The scheme professed to guarantee that the society shall positively *not* last more than 10 years; that non-borrowing members, by paying 5s. a month, or £3 a year, for 10 years, would be entitled to and receive £70 at the end of that time, which is £40 more than the total amount of the 10 years' subscriptions; also, that the borrower should receive as an advance on each share, if there were *no* competitors with him for the same loan, the total of the 10 years' subscription or £30, in return for which he was to pay 5s. a month or £3 a year for 10 years: or, in other words, that a member could borrow £30, and repay the whole, including principal "and interest," by ten payments of £3 extended over 10 years.

If, however, there are several applicants for advances, then the prospectus stated—

"That the funds of the society shall be put up to open competition; and the same shall be awarded to those members who shall offer the *highest premium* or interest for the use thereof. By this plan the great evils, loss and uncertainty, attendant upon the rotation and balloting systems, are avoided.

"That the premiums or interest shall be the only sum payable by the borrowers for the use of the money that shall be advanced to them.

"That the premiums bid shall not be deducted from the sum to be advanced, but may be paid by equal monthly instalments, spread over the remainder of the ten years.

"This will be a very great accommodation to the borrowers, and is, in the opinion of the Directors, a great improvement upon the old systems, under which the premiums are deducted from the money to be advanced.

"In order that the members may be guided as to the premiums they may safely bid for advances of money, the following table is given, showing the amount of interest, to which the premiums from £3 to £15 per share will be equal for the ten years:—namely,

PREMIUMS, IF GIVEN DURING THE FIRST YEAR.				Interest $\frac{\text{p}}{\text{cent.}}$ ann.
£.	s.	d.		£. s. d.
3	0	0	Premium for an advance of £30, spread over the 10 years, will be found equal to	} 1 0 0
4	10	0	ditto	
6	0	0	ditto	1 10 0
7	10	0	ditto	2 0 0
9	0	0	ditto	2 10 0
10	10	0	ditto	3 0 0
12	0	0	ditto	3 10 0
13	10	0	ditto	4 0 0
15	0	0	ditto	4 10 0
				5 0 0

"While such great benefits are secured to the borrowers, it will be seen that those members, who allow their subscriptions to remain as investments, will receive, at the expiration of the ten years *certain*, a very large profit, amounting, it is calculated, (from the facilities and encouragement afforded to borrowers, and the certainty of this society being always able to lend out its funds at a moderate rate of interest), to nearly £40 per share, or £70 for each £30 subscribed in the course of the 10 years: thus shewing, that persons wishing to invest their small savings, and parents desirous of securing a future provision for themselves or their families, will be able to do so in this society with a vast deal more advantage and solid benefit, than they can by

"investing their money in life assurances, or depositing the same in savings' banks, "which do not in any case allow more than 3 per cent. per annum interest, or not "above one-tenth of the estimated interest or profit to be gained by investing money in "this society."

"This plan clearly proves that, although the investors (that is to say those members "who do not borrow money of the society) will probably more than double the capital "they may invest in this society in the 10 years; the borrowers will gain considerably "more in the same time."

We have quoted so much of this prospectus, because the system is one, that contains a variety of complicated errors common, unfortunately, to a considerable number of societies.

It has been said, that the investors were promised £70, in return for 10 annual payments of £3.—This could not be effected unless the subscriptions were invested after the rate of 18 per cent. yearly interest, continuously realized during the 10 years, by the constant investment and re-investment of the society's funds, in loans to borrowers. (*See Appendix*).

Now the members who borrow, pay more or less, according as there is competition or not for advances.

If there be no competition, a borrower gives no premium, and consequently, in obtaining a loan of £30 per share, has only to pay £3 a year for 10 years, or in other words, he has the loan *without paying any interest for it*.

If there be competition, the *highest* premium he can pay on each £30 share is £15, spread over 10 years: he therefore obtains an advance of £30, for which he has to pay annually £3 subscription, and 1*l.* 10*s.* 0*d.* instalment on his premium during 10 years, which is equivalent to paying nearly 8 per cent. rate of interest for the loan. [See the Tables at the end.]

So that in the most favourable case the society would experience *annually a deficiency* of 10 per cent. rate of interest.

If the premium or discount, which a borrower allows, be less than £15, the repayments made by him are smaller, and consequently the rate of interest obtained on the average is less than 8 per cent. Hence, while, on the one hand, this 'Improved' plan undertook to guarantee to the investors a profit arising from the accumulations of their subscriptions at 18 per cent. compound interest, yet, on the other, it lent out the money at rates, which never could exceed 8 per cent., and in most cases would be considerably less.

We pass over the other incorrect estimates advanced by the prospectus, respecting the rates of interest, which are said to correspond to the various amounts of premium mentioned, as enough has been stated to prove the *utter unsoundness* of the plan.

44.—A form of society has found some favour of late years, in which the subscriptions of investing members are fixed at a trifling sum, such as one shilling a week, and no interest whatever is promised to them; the attraction being the promise of a loan of large amount—£250 or £300—to be balloted to the member, on which it is pretended he has to pay no interest. The rules provide, however, (cl. 25) that in addition to a repayment of 10 per cent. per annum on the loan for 10 years, the amount of the investing shares shall subsequently be paid up by each borrowing member, and that the objects of the society shall not be treated as realized till each member has had an advance, which entails on all members the legal necessity of continuing their subscriptions till all are served with loans. The encouragement to overlook this consideration on joining the society is a promise that "when the whole purpose of the society has been completed," all the subscriptions received shall be returned to the members. Any



person desiring a loan from such a society, and not successful in getting one soon ballotted to him, has to \*purchase the right to an advance from some more fortunate member, who may not wish himself to use it. The price given for the right is measured by the necessities of the one party and the cupidity of the other, but it has the same effect to the member who borrows as if more interest were charged on the loan by the society, and the society as a body loses the profit obtained by the members who, through chance only, may have secured the right to an "appropriation," as such loans are termed. A system involving such a complication of errors and absurdities would have earlier broken down, but for the profit obtained on the shares of those members who withdraw disappointed.

45.—Many other societies have been started, conducted upon various schemes, which are equally fallacious, and announcements in the public prints such as the following, were not unusual:—

"From the peculiar advantages offered by this society, the investing members will reap above 20 per cent. interest for the use of their subscriptions," &c., &c.

And further on, the same advertisements assert—

"That the borrowers will scarcely pay at the rate of 2 per cent. interest for their loans."

Again—

"It is calculated that those members who allow their subscriptions to accumulate at compound interest till the close of this society, will receive about 25 per cent. annual interest for the same, &c., &c.: and from 80 to 100 per cent. profit will be obtained by those members, who purchase property with the money advanced to them by the society."

Such statements require no comment.

46.—It is not necessary to extend our inquiry into the defects of other societies, as since our earlier publications, increasing knowledge on this subject has to a considerable extent prevented their formation. Our object in this place is rather to point out the general practical objections to the system of terminating societies altogether, than to rectify misconceptions, which arise from ignorance. It is, however, worthy of notice that the tendency of new societies was to diminish the rate of contribution paid by the members, without making any corresponding reduction in the value of each share promised at the termination. Formerly a more secure principle was adopted, and the monthly subscriptions required on each share were much larger. For instance, in most of the old Liverpool and Manchester Societies, the shares were fixed at £150, and the monthly payments at 20s. per share. Hence, many succeeded in terminating successfully. The modern associations, however, diminished the monthly

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\* [The following advertisement shows that the sale of loans is carried on systematically by these societies:—

"**A**PPROPRIATION.—£300 for 10 years, without interest, in a ——— Building Society, for SALE. Money ready to be advanced on freehold, leasehold, or for building purposes. Repayable £7 10s. per quarter. Also a £250.—Secretary, 13, — street."]

subscriptions one half, and yet took only £30 off the amount of the share to be realised. In general the statements, they put forth, did not depend upon principles deduced from sound knowledge or careful reasoning, but were rather the offspring of crude guesses thrown out at random. The originators of the multitudinous variety of new and improved plans, promising such large benefits simultaneously to each of the two classes of members, who alone constitute these societies, might, with as much probability of success, devise a game of cards, at which all who played should rise up winners. They did not reflect that, although a fair and reasonable benefit may be secured to the investor by lending on equitable terms to the borrower, yet, any extra profit beyond this, which is promised to the one, can only be obtained at the expense of the other.

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### SECTION 3.

#### *The leading practical objections to Benefit Building Societies as originally constituted.*

47.—Among the objections which apply to the majority of the earlier societies, there is one which is peculiar to those founded on the terminating principle:—

*In consequence of its being intended to close the society in a given number of years, or as soon after as practicable, the opportunity for investment soon ceases, as the members are unwilling to borrow in the later years of its existence, when the period, over which a loan can extend, has become small, and the corresponding rates of repayment much increased.*

It is found by experience, and it is indeed a fact, which common sense would suggest, that it is almost impossible to find members who will care to borrow, when the first five or six years of any society's expected duration have elapsed. The monthly repayments upon a loan, which is to be only for a short period, become too large to suit the means of the industrious classes, who are usually the shareholders of a Benefit Building Society; and this difficulty increases to an insurmountable degree in the last years of the proposed term of its existence. For although a man, who borrowed £300 for 14 years in order to purchase a house, might contrive with comparative ease to pay £30 a year in addition to the taxes and ground rent; yet he would probably be unable to pay 59*l.* 18*s.* 0*d.* a year if the loan were merely for 6 years, or 85*l.* 12*s.* 6*d.* a year if it were only for 4 years, and so forth.

In ten-years societies the difficulty is still greater, as the terms for loans are much shorter. This circumstance creates therefore a cessation of investment, and consequently a loss of interest, which altogether nullifies the calculations upon the supposed truth of which the society was founded; for it has been shewn that, even supposing the rates of a society accurately calculated, they can only prove correct, on the supposition that there is never any loss of interest on its funds, or, in fact, that all monies received from subscribers are continuously invested until the end. Hence this objection, which becomes greater and greater with the progress of the society, stands prominent as a vital obstacle.

Some societies attempt to obviate the difficulty by a plan, which, in some measure, would be successful in preventing this loss of interest, were it not that it entails another equally important objection relative to the expenses of the association. The plan alluded to consists in dividing by lot any balance of money existing at a meeting, where there are no borrowers, among those members who have not yet received advances on their shares; so as to compel them at once to withdraw from the society, as far as such shares are concerned; the amount paid, on this forced withdrawal of each share, being regulated by its value at the time of withdrawal, according to the rules.

Such a measure, though necessary, adds to the general difficulties in the principle of termination, since it tends month by month, in a rate rapidly increasing, to diminish the number of the members of the association; for in each successive month of the last years of its expected existence, the number of members, who desire to borrow, becomes less, and in the absence of applications for advances, the number of investors, or non-borrowers, who must be paid off, increases. Thus the society, which might otherwise have succeeded, rapidly sinks in importance, and *the expenses and any deficiency of funds* which may afterwards be discovered, instead of being spread over a large body, have to be borne by the few, who are unlucky enough to remain to the end.

48.—The following objections for consideration, although common to many societies, whether terminating or permanent, are nevertheless increased and aggravated when the institution is of a transitory character.

First.—*The interest is usually calculated as likely to be realized monthly, whereas such is practically not the case.*

It is not possible but that, from the very beginning of any society's existence, some portion of its funds will at various periods remain unemployed for a time. Sometimes this takes place, because the balance in hand is not large enough to meet the purpose of any borrower particularly in the first year or two, when the subscribers are too few in number to raise quickly enough an adequate sum. Sometimes, on the contrary, when the amount required by the borrowers, whose names are entered, has been advanced, there remains a sum which is not applied for.

Now it has been stated, that the interest is generally calculated as produced monthly, which would require that there should never be even a day lost in investing the whole of the subscriptions, collected at each meeting; and since this is practically impossible, it may be laid down as an axiom, that no society can be secure, whose rates of subscription are formed upon such a principle. It is not remembered, that although it is desirable to receive the subscriptions monthly, yet it is not safe to act upon the hypothesis of their being immediately reinvested, or of monthly interest being actually obtained, as such a mode of calculation reduces the rate of repayment, which it is necessary to charge to a borrower for a given loan. It is one thing to receive the repayments monthly, and another to assume in the calculations, that they will be as frequently reproductive of interest. In other words, the safety of any society depends upon the managers always having sufficient time, before the arrival of each of the calculated periods for reinvestment, upon which the tables are based, to complete the necessary details for preventing loss of interest, by investing all monies which are not required for the immediate purposes of management. This can only be secured satisfactorily, by making the epochs of monetary repayment in each year more frequent than the periods, at which allowance for interest is credited to the borrower in the fundamental calculations. Hence it would be safer, at all events, if the interest were supposed paid quarterly; but, in order to remove any possible contingency from this source, we consider that, in all calculations, which form the basis of the subscriptions, the interest should be assumed



as only realized annually and at the *end* of each year. The difference between this assumption and the actual result would be in favour of the society, and useful for contingencies.

49.—Whilst we are upon this subject, it is important to direct attention to another circumstance, which affects the accumulations expected to be realized from interest. In many of those societies whose rules were certified before the Registrar had been advised that the borrowing of money was not in accordance with law, (*See Legal Chapter*) and in some of those whose rules contain no power for the purpose, there exists a practice of borrowing money from their bankers, for the temporary purpose of accommodating members sooner with advances. This is often done at the commencement of the association, and occasionally later in the course of its existence. If the sum charged by the bankers for the accommodation does not exceed the interest, which forms the basis of the society, and, as such, is expected to be paid by the borrowing members, then the transaction is safe and highly advantageous. But if the bankers charge 8 or 8½ per cent. as at times has been the case, while the society only receives 5 or 6 per cent. from its borrowers, then a loss must be experienced. Those societies, in which the Advance-repayments are founded upon a 5 per cent. rate of interest, ought to pay particular attention to this consideration. If money be borrowed from extraneous sources, and it is undoubtedly often necessary to do so, in order to carry on and facilitate operations, let care be taken that those members, who are benefitted by the accommodation, pay the extra charge. As at present, however, money can only be borrowed on the personal security of the Directors, an alteration of the law is urgently required.

50.—Secondly.—*The loss from the expenses of management.*

Whether the amount of monthly subscriptions from the members of a Benefit Building society be theoretically sufficient or not; yet the promised results cannot be realized, in consequence of the annual loss caused by the Expenses, which are not adequately provided for.

In Section 1 we have seen that, in most societies founded upon principles theoretically accurate, the present value of each share at the time of an advance, or its amount at the *end* of the specified number of years, are respectively equivalent to the accumulation arising from the receipt and immediate reinvestment of the monthly subscriptions thereon. It follows, that the money so received cannot be appropriated to other purposes without loss; hence the expenses of starting and giving publicity to a Building society, and those also of its subsequent management, to however small a compass they are reduced, must be defrayed out of some other source of revenue than the share subscriptions.

If the initial and subsequent annual expenses could be accurately estimated beforehand, there would be no difficulty in ascertaining what payment per share ought to be contributed by each member to meet the necessary outlay. In the majority of cases, however, the probable amount of the expenses is neither known nor provided for, although they are frequently asserted to be covered by the entrance fees, fines for non-payment of subscriptions when due, and a few other trifling sources of profit, which the society may expect to receive. To a certain extent this is correct, but in no case are these receipts sufficient to defray more than a very small proportion of the expenses. In the first place it must be remembered that a fine is not wholly profit: a fine is inflicted at so much a month per share, for neglect of regularity in paying the monthly subscriptions when due, and, therefore, is partly requisite to supply the loss of interest, which the society would otherwise experience. And, even assuming that the preliminary expenses could be covered by the money received from entrance fees, which an inspection

of the various Balance sheets shows to be very seldom the case, yet the *annual* charges of management, consisting of office rent, salaries, &c., must be provided for.

To show how such an annual outlay would affect the ultimate status of a Terminating association, take for example a 14-years Building Society, whose shares are £120, produced by a monthly subscription of 10s. or £6 a year, and the annual expenses of which we will suppose to amount to £72 a year. Now £72 is 12 times £6, or equal to the amount of subscription received yearly on 12 shares, and, therefore, by the fundamental statements of the society, is calculated as equivalent to 12 times £120, or £1440; consequently the annual charges must produce a deficiency of £1440 in the society's funds at the epoch of its originally expected termination. This instance will apply in principle to all societies, whether of 10, 12, or 14 years' duration, unless, independently of the monthly share subscriptions, they have adequately provided for the annual expenditure. An inspection of many of the annual Balance sheets shows moreover, that the expenses of the year added together frequently average from £120 to £150, which, on the same principle of calculation as that made use of above, must create, from this source alone, a deficiency in the society's funds, at the end, of from £2400 to £3000.

51.—Thirdly.—*There is no provision made in the theoretical calculations for losses, which may be experienced through bad investments, &c.*

In all mercantile transactions of this kind losses must occasionally happen; and, whether they arise from wilful neglect or carelessness, or other causes, such as deterioration in the value of property, they combine to produce an effect for which no provision is made in determining the subscriptions to be paid by members. Although, at the commencement of a Benefit Building Society, it would of course be impossible to foresee the individual events, or even the nature of the events, which are likely to be productive of loss, yet it is a matter of experience that losses will occur, entailing a deficiency in the society's funds at the time of its promised termination, which, with the combination of the other defects already mentioned, will, in the case of a Terminating society, tend to cause a *prolongation of its existence* beyond the originally intended or stated period.\* By such means the duration of the subscriptions of both investors and borrowers is unavoidably extended, and they suffer in consequence a decided loss.

In the first clause of the Benefit Building Society Act, it is provided that the duration of a society and the consequent continuance of the Borrower's repayments, shall depend, not on any number of years specified in the prospectus, but, upon the actual completion of the full amount of the *unadvanced* shares; so that a society may not close at the end of the expected term of its existence, unless the funds collected at the *last* monthly meeting shall be sufficient to give to each of the non-borrowing members a division per share equal to its originally stated amount. If there be a deficiency, from whatever cause it may proceed, then must all the members, borrowers as well as non-borrowers, continue their subscriptions for such additional number of months as may be necessary, unless they should all unanimously agree to dissolve the society and put up with the loss sustained.

In some of the Terminating societies, provisions have been inserted in the rules that, whatever be the position of the society's affairs at the end of the expected time of its duration, the borrowing members shall *not* be required to continue their payments beyond that period, but shall have their deeds returned to them, and their property released from any further claims. Such provisions are nevertheless of no legal avail

\* [A London Society, of which the proposed duration was 10 years, decided that, from the extent of its losses by advances on insufficient or bad security, its term must be extended to 16 years.]

whatever, and cannot prevent a prolongation of the society, nor in any way protect the borrowers from its consequences. No rule can protect them from a liability for such continuance of monthly subscriptions, as may be deemed necessary for the purpose of making up any deficiency that may exist.

52.—It appears, therefore, that no society can possibly possess, at the end of the originally specified time, sufficient funds to give to each Investor the full amount of his shares, even supposing the rates are accurately calculated, unless :—*Throughout the whole previous duration of the association, there has been no loss sustained, either through bad investments or other causes, or from extraneous expenses (not covered by sufficient extra contributions from each member over and above the receipts from fines, fees, &c.), and also unless no month has ever passed during which any part of the subscriptions has remained unproductive, so that, in other words, no loss of interest has at any time occurred.*

53.—Should there arise a deficiency from any one of these causes and the duration of the society be prolonged, it will be well to consider the effect, which such a result has upon the relative interests of the Investors and Borrowers respectively. An extension of its existence for 3 or 4 years in reality causes the borrowers to pay much more for the loans they have obtained, than they imagined would be the case, when they entered into their engagements towards the society. The interest which they actually pay, instead of being perhaps only 5 or 7 per cent., becomes thereby increased to more than 10 per cent. An investor, also, not only does *not* receive the promised amount at the expected time, respecting which he may very likely have made pecuniary arrangements, but he is also compelled to continue his own subscriptions; by which means the benefit, that he derives from his shares, is very materially diminished.

As, however, the Investors have still the option of withdrawing from the society, if they are willing to accept the amount of dividend per share that the funds admit of, and thus mutually agree to dissolve the association, it will often be a question worthy of their serious consideration, whether it will not be better to endeavour to make an arrangement with the existing borrowing members, that the latter should at once contribute something towards the deficiency, to be determined by calculation, and then that all the members, both investors and borrowers, should agree to dissolve the society. Experience has shewn that this plan will really be the most advantageous to the two classes of members, inasmuch as the investors will be prepared, in general, to put up with some loss, or, in other words, to release the borrowers upon liberal terms, in order to receive at once some money for their shares, however the amount may fall short of what they expected.



54.—\*We have said that the Borrowers have not to make good the whole deficiency in the society's funds, but only their proportionate amounts, considered relatively to the otherwise necessary continuation of subscriptions from both parties. Hence, it will be advisable, in order to avoid an unintentional act of injustice to either, that the members should see that the proper quota to be contributed is determined by accurate calculation. In the Appendix we give a specimen of the mode of investigation to be adopted.

55.—In perusing these remarks respecting the majority of the terminating societies, and in comparing the liberal promises contained in their prospectuses with the periodic reports of the position of their affairs, we believe the impartial reader can arrive but at one conclusion. † He will become satisfied:—That not one in twenty, or even in a greater number, can possibly realize for its members, whether investors or borrowers, the advantageous results originally promised; and that, at the various epochs of their expected termination, there will be found such a deficiency of money as must deprive the possessors of unadvanced shares of a considerable portion of the accumulation, which they had been led to expect;—That in many cases, so far from receiving £120 per share, they will obtain less than £75, and that, if not disposed to accept whatever sum may be then offered to them, they will be forced to continue their subscriptions for several years beyond the specified time; That these unfortunate results have arisen in great measure from a lack of proper knowledge and experience in the originators of these institutions,—a circumstance that does not always escape the notice of the industrious classes, and tends largely to diminish their faith in the real advantages of prudent and economical habits;—Lastly, that legislative measures are necessary for the due regulation both of the legal establishment of a Benefit Building Society, and also of the system of its financial operations; and that some supervision should be exercised by truly competent persons, not only at the commencement of the society's existence, but subsequently, from time to time, throughout its progress.

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\* [Since the first publication of our Treatise, a great number of old societies have remodelled their Rules and Rates of Subscription, and have been converted into *permanent* institutions upon a simple plan founded upon the principles laid down therein. It is also highly gratifying to state, that very few *terminating* societies have been formed during the last 15 years.]

† [Readers should beware how they rely too hastily upon statements, which they may hear, of individual societies having terminated successfully. They will find, upon investigation, like the Author, that some questionable expedient has been adopted, towards the last years of its intended existence, by which an apparently prosperous end has been attained. For example, it may be mentioned that in the North of England a society terminated lately with the promised results, through the members paying for the last few years double the original subscriptions upon their shares. The public were then informed of the fact, that the shares had been realised:—The shareholders alone could have stated, what they had paid for the same.]

## CHAPTER IV.

## ON PERMANENT BENEFIT BUILDING SOCIETIES.

ART. 56.—Having reviewed some of the leading objections to the plan of *terminating* societies, which propose to close at the expiration of a fixed number of years, or as soon after as the stated amount of the unadvanced shares is realised, we will now proceed to examine in detail the various superior features of our *permanent* system.

To enable an institution of this kind to conduct its operations successfully, as regards the profit, which is expected by the investing members, at the same time that the borrowers are freed from unjust responsibilities, it is proper, not only that the rates of subscription and repayment should depend upon a sound basis of mathematical reasoning; but, also, that the general system of the society's practical operations should be, as much as possible, clear from those defects, which either prevent the realisation of the expected interest within the calculated time, or produce injury and personal inconvenience to the members. It is essential, that due provision should be made for the current expenses and liabilities, and that they should no longer be left dependent upon the uncertain receipts from fines or fees. The relative position of the two classes of members should also be more equitably considered, so that the profits of the one may not be increased by taking an unfair advantage of the other; and the period of the duration of a mortgage should be rendered definite, in order that the claim of the society upon a borrower may at all times be subject to equitable adjustment, in case of his being subsequently desirous of redeeming his property; since it is evident that any uncertainty, respecting the duration and amount of a debt, tends materially to depreciate the saleable value of the security held for it.

As, moreover, it is not easy to form an opinion of the possible fluctuations in the value of money, when it is involved in transactions extending over a lengthened number of years, attention must be given to a suitable Reserve being annually made upon the society's profits to form a protective fund against future contingencies. Experience daily shews, that Benefit Building Societies, from the peculiar nature of their transactions, are exposed to losses, which cannot always be averted by the most careful or intelligent management. By subjecting, however, the chance

of their advent, to the laws of 'Average,' and by providing a resource, whence any deficiency may be at once made good, these institutions can be rendered, on the whole, as secure and as advantageous mediums for investment, as any other in the kingdom.

57.—The Permanent plan, which we devised in 1846, appears to meet these requirements, as it is entirely free from most of the objections peculiar to Terminating societies :—

1st. The difficulty of finding borrowers, at any time in the course of the existence of a society, is removed.

2dly. New members may enter in any month without paying up any arrears or increase of entrance fee. Hence, the scope of the society's action is extended, and the power, resulting from mutual association, of doing good, is greatly augmented, as the number of shareholders increases year by year, and even month by month, instead of diminishing.

3dly. The initial and annual expenses can be more equitably divided, and spread over a larger number of members.

4thly. A member may, under reasonable restrictions, withdraw his subscriptions, or effect the redemption of a mortgage, without the delay or expense, that he would experience in a terminating society.

5thly. The duration of members' subscriptions can be fixed with greater certainty.

58.—The system of a Permanent Building Society, which is most simple in its operations, may be explained as follows :—

The members are separated, as before, into two classes, Investors and Borrowers.

The investors pay a certain monthly subscription during a *fixed* number of years, calculated as sufficient for the realisation of their shares, at the end of which time the amount due is paid to them, and they secede from the association, as far as such shares are concerned. The investors represent the proprietors of a company. New members can enter at any time, and commence their subscriptions without paying up any arrears or any increase on the original entrance fee, whereas in terminating societies, the fee on entering is increased, without sufficient reason, year by year, until, from being originally only 2s. 6d., it is in some cases raised to six pounds per share. The duration of a membership is counted from the month of a member's first entrance. This causes every month a fresh series of members to be added to the society or new shares to be issued, so that, taking an example, if the term of membership were 10 years or 120 months, and 50 new shares on the average were taken up every month, there would, at the end of the first 10 years, be 6000 shares subscribed, supposing always that, if any were withdrawn, the average would be kept up by an increase in the new comers. At the end of the first 120 months, or 10 years, 50 would be paid out, but as new members would come in, the number of subscribers



would be undiminished, and month by month afterwards, as successive periods of 120 months were completed, old members would go out and new ones come in.

The Borrowers receive, at the time of obtaining an advance, the full amount of their shares, without any deduction beyond a trifling commission, which is withheld as a contribution towards the expenses and losses; the loan is secured by a mortgage on the property purchased, and in return they pay, during an *optional fixed* number of years, previously agreed upon, a suitable monthly subscription, by which the debt is liquidated with interest. The members who become borrowers, *at once cease to be investors* in respect of the shares on which they obtain advances, and do not participate in any of the subsequent liabilities or expenses of the society, nor consequently in its profits, which in fact they anticipate by obtaining their loans at a moderate and definite rate. The general liabilities are provided for by taking, as the basis of the calculations, a higher rate of interest for the repayments, than is actually guaranteed to the investors for the realisation of their shares; that is to say, if the amount of each share held by an investor, which is promised to him at the end of a fixed term of years, be equivalent to the accumulation of his subscriptions at  $4\frac{1}{2}$  or 5 per cent. compound interest, the borrowers would nevertheless be charged about  $6\frac{1}{2}$  or 7 per cent. This difference of 2 per cent. in the rate of interest obtained is temporarily withheld from the investors, in order to form a management and contingent fund, for the purpose of meeting the expenses, and contingencies of loss on the mortgages. The customary commission, which is deducted from the loan, is proportionate to the number of years of its duration, and varies in amount with the local circumstances of the place in which the society is conducted. It is regulated by a table, where the advances are made by Rotation or the Ballot; but in the case of the Bidding system, it is replaced by the premium bid per share. A borrower must have been previously an investor, but *immediately* after he borrows, he passes over from one class to the other, receiving then whatever amount is *due* to him on his *investing* shares, as arising from his *past* subscriptions, with interest thereon from the date of his first joining up to the time of his obtaining the advance. The repayments of the borrowers are for a fixed term of years, whatever be the subsequent condition of the society, as it is not reasonable that, when they have once given good and sufficient security for a loan, they should be expected to share in the responsibility of future investments. This is one great improvement upon the old system, where the period of the subscriptions depends on the success or non-success of the association, or upon the contingency of any loss being sustained by it from other property mortgaged to other members — so that in many cases the repayments are extended over several years more than was expected by a borrower when he first effected his loan.

59.—As regards those members who remain investors, the system of periodically\* dividing a Bonus from the profits is adopted, which has been found so productive of safety and success to mutual Life Assurance companies. Instead of forestalling the society's profits, by reducing the monthly subscriptions of the investors to such a degree as barely to leave them sufficient, even theoretically speaking, to produce by accumulation the amount of the shares, the safer plan already alluded to is adopted, of keeping the subscriptions sufficiently high to be theoretically and practically adequate to the purpose. Any *surplus* profits, which arise, beyond the promised amount of the unadvanced shares, are periodically and proportionately divided among the investors in the shape of a Profit-Bonus to be paid to them, with the other sums due on the completion of the subscriptions upon each share. The Bonus system thus possesses very great advantages, inasmuch as it preserves to the society the possession of a reserve fund, over which it has power, and whence any unexpected losses may be met.

60.—The borrowers, of course, are not entitled to participate in this Surplus-Bonus, as they have secured the equivalent by the manner in which they obtained their advances. This point appears, since the publication of the first Edition of our Treatise, to have been misunderstood, and several well disposed persons have exclaimed against an apparent disadvantage offered to borrowers by the new system. They should, however, have reflected that the borrower is in all cases, practically, equally well off, since by the very mode in which he obtains his loan, he secures at once the enjoyment of an *immediate* profit which is still only *prospective* to the investor. The money in hand is of at least as much advantage to the borrower as the deferred realisation of his shares can be to the subscriber, who has to wait to the end of his membership. So strong a notion, however, appears to prevail in some places, that a plan of so-called "mutuality," by which Borrowers should participate with Investors in the profits and the losses of the society, is preferable, that, on the ground of expediency, we have in some cases recommended the adoption of a "mutual" plan.

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\* [Valuations for the purpose of declaring a Bonus should not be made at less intervals than three or five years. An annual valuation is perplexing and unfair, inasmuch as the amount of new profit annually made by a Building Society varies very largely, being affected by the number of new mortgages granted, the proportion of withdrawals and redemptions, and many other circumstances.]

A case is before us of a Building Society which in the first nine years of its existence, declared profit amounting to £17,885. In the tenth year, although £1,922 of this profit which was supposed to have been realised fell in, by forfeiture of Bonus on withdrawal, yet the aggregate balance in favour of the society was only £47, showing a loss in that year of £1,875. If annual valuations are made, a very large proportion of the apparent balance ought to be set aside for an Equalisation Fund, before any profit is actually declared. See on this point the remarks in Part 2 as to *Local Enterprise Encouragement Societies*.]

61.—In a permanent institution of this kind there is little difficulty in obtaining borrowers, for the great objection disappears which is made against terminating societies :—*viz.*, that after a few years of their existence, the duration of a mortgage is too limited, and the loan repayments too heavy to suit the means of the class who are usually members. If the society be permanent, a member can at any time become a borrower, and yet have his advance for whatever period is most suited to his means, the amount of monthly payments required being less as the duration of the debt is extended.

62.—Again, since new members may come in at any time without paying up any arrears, the society will, if properly managed, continually receive a fresh accession of strength from new subscribers, and thus generally possess, at each meeting, funds sufficiently large to be capable of being invested without delay ; whereas, it has been stated before as one of the difficulties in the old societies, that from their being comparatively confined in their action, the funds collected at a subscription meeting are frequently insufficient to meet the wants of any borrowing member, and are consequently left idle and unproductive of interest for, perhaps, some months, until by subsequent additions they amount to the sum required.

The permanent principle therefore possesses several elements, which tend materially to confirm the calculations founded on the *probability of a continuous realisation of interest*.

63.—It is, however, necessary and proper that a higher rate of interest should be charged, in determining the advance repayments, than the investors would be content to receive in return for their subscriptions, in order that some margin may thus be provided for the various contingencies to which these societies are exposed. *These contingencies arise not from the Investors but from the Borrowers.* It is through the loans that losses are likely to be produced, and the borrowers should therefore pay sufficient interest to protect the investors from such casualties. As we have said before, the security offered to Benefit Building Societies is one of much tendency to be of an unsound nature, and out of a large number of such investments, a few bad cases will always arise entailing loss. By charging, however, a sufficiently high rate of interest from the borrowers, the annual receipts from that source may be made large enough, not only to meet the engagements in respect of interest on their subscriptions, which the society has contracted towards the investors, but also to cover any loss arising from bad security or other causes.\*

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\* [We have, since writing the above, met with a similar view of the principle involved, in the well-known *Catechisme de l'Economie Politique*, by the late distinguished J. B. Say, at page 181 of the fourth edition. The substance of his views is as follows :



In societies formed for the purpose of purchasing or dealing with property, which does not consist of land, in or around London, or other large towns, a very fair plan is to take 7 per cent. rate of interest as the basis of the loan repayments, since that rate is sufficiently low to enable a member to purchase a house on comparatively moderate terms, and in consequence of the greater opportunities for other investments, at apparently as high rates of interest, possessed by London residents, which they might consider more secure than house mortgages, it would be nearly impossible to find lenders, or investors, if a lower rate were charged, as (supposing that the expenses, and losses which might arise, absorb 2 per cent. off the rate of interest obtained) they would not clear more than 5 per cent. for their money.

64.—*Again ; the expenses, both initial and annual, can be more equitably divided over present and future shareholders.*

First, as regards the initial expenses, instead of their being defrayed by the first series of members, they can be charged as a debt against future as well as present subscribers, and be paid off by a certain fixed temporary deduction from the surplus profits of the society. The annual expenses will in a similar manner be borne by a much greater number of members, than is the case in associations formed on the terminating principle, with this one peculiar additional advantage, that year by year as the society progresses, until the close of the first period of the duration of the investors' shares, the number of contributors will increase, instead of diminishing. (*See Appendix for further remarks on the rate of contribution, which it is equitable to require from the members.*)

65.—In permanent societies, any borrower who desires it, can, under certain practical restrictions, be permitted to *redeem his mortgage* on much more equitable terms than under the old system.

In a society of limited duration, if a borrower, or his family in case of death, before the mortgage is cleared off, make application to pay off the remainder of the debt, a much larger sum is exacted, than would be required on a mere theoretical view of the question, in consequence of the society no longer possessing opportunities of investment for any sum which may be returned on its hands, as the other members are unwilling to borrow, when

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Capital is rendered available, by industrial enterprises, to produce an income under the name of interest. The interest or income from such a source should be separated into two parts. When a sum of money is lent at a much higher rate of interest than that of the public funds, say, at 6 per cent. per annum, only  $3\frac{1}{2}$  or 4 per cent. (more or less) can be considered as the payment received from the borrower by way of rent for the hiring of the money. The remainder  $2\frac{1}{2}$  or 2 per cent. (more or less) is to cover the extra risk existing in the investment, or is the Premium of Assurance at which the lender (acting as his own Assurer) can incur the chance of loss, to which he is exposed through making his advance upon a security, that is not of the first class.]

the loan can only be obtained for a few years. So that a borrower, who wishes to clear off his mortgage before the close of the association, has to pay not only the net value of the remainder of his debt, but also some compensation for the loss of interest, which will be experienced in those years, during which the money thus returned will remain idle and unproductive in the hands of the society. Hence, instances constantly occur of amounts being required in redemption of a mortgage, which would be considered unfair and exorbitant, were it not for the peculiar circumstances of the case.

In a permanent association, on the contrary, as opportunities for investment abound, the directors would be ready to offer fair and reasonable terms for redemption, in order to increase their power of encouraging the entry of new members by the prospect of an early advance.

66.—On the other hand *the withdrawal of shares* by the Investing members is greatly facilitated.

In terminating societies, persons, who desire to discontinue their membership, cannot do so without much difficulty and delay, because the money they have subscribed is engaged in the society's investments; and as few, if any, new members join after two or three years, the funds received from time to time can only with considerable restriction be paid out on withdrawing shares. Hence, it has been customary to inflict fines, varying from 5s. to £10 per share, on parties withdrawing. \*This deduction is severely felt by the poor man, who, when endeavouring to save a few pounds, does not know at what time he may require them; and who from unforeseen circumstances may desire to withdraw some portion of his subscriptions, as the only means of freeing himself from, perhaps, temporary difficulties. Yet, if withdrawals were permitted without restriction, a terminating society could never lend out the whole of the sums invested, as it might be called upon at any time to return an inconvenient portion of them. Consequently, in all the old Benefit Building Societies, the rules attempt to provide against this difficulty by making it not easy to withdraw shares. Moreover, the societies themselves are injured by applications for withdrawal, which they cannot satisfy, as a feeling of distrust is excited which materially affects their subsequent operations. This inconvenience does not exist in the permanent plan, because new members continually enter, and there is always a floating balance sufficient to meet any applications for withdrawal within reasonable limits.

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\* [ The rules should provide that a member, who has given notice to withdraw, shall not participate in any loss, occurring *subsequent* to the date of his notice. ]

67.—The permanent system, described in the foregoing pages, will best be understood by a few examples taken from the rules of a society, founded upon that principle, which has met with great success:—

“The shares of Investing members are \*£100 each, for which the subscription is

	13s. 0d.	a month for 10 years or 120 months.			
or [	10s. 0d.	„	12½	„	150 „
	8s. 4d.	„	14	„	168 „]

“They may, however, take half shares of £50, or quarter shares of £25 each, if they prefer it. Investing members can *withdraw* from the society, without fine, at any time *after* the first year, when the amount of their subscriptions will be returned, with interest, varying, according to the length of time the member has subscribed, from 1 per cent. up to 6 per cent., according to the following table for whole shares, and so in proportion for half and quarter shares *viz.*,

Without Profits.	At the end of the first year				£
	„	2 years	...	...	..
	„	3 „	...	...	...
	„	4 „	...	...	...
	„	5 „	...	...	...
	„	6 „	...	...	...
	„	7 „	...	...	...
	„	8 „	...	...	...
	„	9 „	...	...	...
At the last or 10th year				...	£100 0 0

(With Profits in addition to the £100.)

“Investors may, if they desire it, cease their future payments and leave their past subscriptions, as a Deposit producing compound interest, to be received back in one accumulated sum at the end of the originally selected term of their membership.” [The table being calculated by the formula in Section 4 of the Appendix.]

“A Guarantee Fund is also formed, by the issue of Stock, in Shares of £1 each, which may be paid up at once, or by four quarterly instalments of five shillings. On these Shares interest is paid half yearly, at a guaranteed rate of per cent.

“Persons intending to borrow must, in order to qualify, previously become members; and, at the time of borrowing, they will be repaid the sum due for the past subscriptions on their shares with interest, and then receive, as a loan, the full amount of any number of shares they may require, without any deduction, beyond a small commission, which will be carried to the credit of a management and contingent fund, to defray expenses &c.

“Loans, to the extent of £ , will be made to members on security of real or leasehold estate, house or land, in any part of England, for 5, 7, 10, 12 or 14 years, as they prefer.

\* [In some cases £50, and even £25, would, perhaps, be the preferable amount of each share, as the smaller the sum subscribed, the less the amount of withdrawals.]



"Example—\* A member borrowing £100 on mortgage is only required  
"to make the following repayments, including principal and interest, viz.—

"If for 5 years £2. 0. 8 monthly or £6. 5. 0 quarterly

"	7	"	1. 11. 0	"	4. 15. 4	"
"	10	"	1. 3. 9	"	3. 13. 1	"
"	12	"	1. 1. 0	"	3. 4. 6	"
"	14	"	0. 19. 1	"	2. 18. 9	"

The repayments of the borrowers are calculated at 6 or 7 per cent. rate of interest, whether the loan be taken for 5, 7, 10, 12, or 14 years, and, although actually paid monthly or quarterly, they are regarded in the calculation as made *yearly* and at the *end* of each year. This creates but a slight augmentation in the amount of the periodic repayments, and yet tends materially to increase the safety of the basis on which such a society is founded.

"The amount of commission deducted is what a careful examination of  
"the expenses and losses of other similar institutions has shewn to be  
"necessary and sufficient." (*See the Rules in our Treatise on Copyhold Enfranchisements and Freehold Land Societies.*)

"The *surplus* profits of the society, (over and above the promised amount  
"of the unadvanced shares,) will be ascertained periodically by an Actuary,  
"and be apportioned, *two-thirds* to the credit of the investors, to be paid to  
"them as a Bonus at the termination of their 10 years membership; the  
"other *third* to be carried to the credit of a Permanent guarantee fund,  
"formed to meet any loss which may arise. This proportion in the divi-  
"sion of surplus profits will, however, be varied as may be considered  
"advisable, after the expiration of the first nine years of the society's  
"existence.

"There will be no loss from bidding. Should there be more applicants  
"for advances than can be supplied at one time, priority will be settled by  
"ballot (or rotation.)

"The receipts arising from the entrance fees, fines, &c., will all be carried  
"to the credit of the management and contingent fund, out of which the  
"different expenses will be defrayed.

"As an example of the working of this society:—Suppose a person desires to  
"purchase a house for £300, which would return a *net rental* of £30 per annum,  
"and that he has been an investing member one year before he applies for the ad-  
"vance. He must hold 3 shares to borrow £300; and in this example suppose  
"that he has paid one year's subscriptions on each of the 3 shares.

"By the table of withdrawals he is entitled to 3 times £7. 16s. 0d., or £23 8s. 0d.,  
"in return for his past subscriptions. This sum he receives, at once, if he desire it,  
"with the £300, and, ceasing to be an Investor, he borrows the £300 on the terms  
"of the table of repayments for Loans, for which only he gives security.

"If he effect this Loan for 10 years, his repayments, including principal and  
"interest, will be £3. 11s. 3d. a month, or annually . . . £42 15 0

"Multiplied by 10 years. . . . . 10

"Making the total re-payments . . . . . £427 10 0

"Deduct 10 years' rent (paid or received) . . . . . £300 0 0

"Leaving the cost, as far as the Benefit Building Society is concerned, £127 10 0

\* [The mortgage-deed must be for a term certain, as in the case of annuities secured upon property. It will be different from the ordinary deed of the Terminating Building Societies.]

“ For which sum the member has thus secured to his family a house, free of rent, for the remainder of its lease. The above example is for 10 years. The purchase, however, may be effected by smaller annual payments, if the Loan be taken out for 12 or 14 years.

“ The deduction for commission, and the law expenses, must be provided for from the £23. 8s. or other private source. They of course add to the expenses of the purchase, but *it should be remembered that the payments of the borrowers can in no way be increased or extended beyond the specified period for which the loan is taken, as is the case in the old societies.*

“ Taking an example from one of them whose shares are £120, upon which, in the first year, a borrower would receive only about £55 in cash, and occasionally much less, he would be required to pay 14s. per month per share, or 8*l.* 8s. 0*d.* per annum, until the close of the society, which is more likely to extend to 14, or even 16 years, than to terminate in 10 years; but, confining the question to 10 years, in order to obtain a loan of £300, he would have to pay a subscription upon five and a half shares, amounting to 46*l.* 4s. 0*d.* a year; whereas, in this society, it would cost only 42*l.* 15s. 0*d.*”

68.—In the permanent plan just described, the period of the Investors' subscriptions may be 10, 12, or 14 years, or even longer or shorter without affecting the principle. Either would answer equally well, and the result would be the same to an investor whatever term were adopted, if the basis of the subscriptions were upon the same rate of interest. We recommend, however, that, to avoid complication, in no society should the investors have more than one or two periods for the realisation of the unadvanced shares, and their monthly subscriptions should not be less, than what would be required to produce them by accumulation in the stated time, at  $4\frac{1}{2}$  or 5 per cent. compound yearly interest. Although it is not possible, *a priori*, to estimate the amount of *surplus* profit, which will remain at the end of each period, when the expenses and any losses that may occur have been provided for, yet it is reasonable to expect, that if the society be carefully managed, each investor will receive a Bonus in addition to the originally promised amount of his share. What that Bonus will be must depend on the success of the association, and every member will, therefore, find it to his advantage to add his individual efforts in promoting its prosperity. The Management and Contingent Fund will be amply adequate for its purpose, since it will include not only the entrance fees, fines, and commission deducted from the loans at the time of an advance, but, moreover, a fluctuating reserve on each £100 share, arising from the circumstance, that the annual subscriptions paid by an investing member, *viz.*, 13s. a month or 7*l.* 16s. 0*d.* a year, are invested at 7 per cent. compound interest, and in the case of its being realised monthly, the reserve in 10 years would be as high as £11 per share.—(See Section IV. Appendix.)

69.—An improvement might be effected in the pecuniary position of the Borrowers, by which greater facilities would be afforded to them to realise benefit from Advances. For the first year after his purchase, a borrower is, in most cases, scarcely able to complete the necessary arrangements connected with the furnishing his house, &c.; and he experiences some difficulty in providing for the increased payments, which begin at the end of a month from the time of his obtaining a loan. The original object of Benefit Building Societies, *viz.*, to enable the industrious poor to become possessors of their own homes, would be accomplished, with greater certainty and less inconvenience to the parties concerned, if the monthly repayments upon advances did not begin for a year after the same had been granted. The borrower would thus have time to look about him and to settle comfortably in his purchase; and the society would merely have the repayments deferred for one year, or for whatever other time might be agreed upon. In the Appendix the formula is given for the rate of contribution suitable for a loan so granted.

## CHAPTER V.

### THE PRACTICAL MANAGEMENT OF A BENEFIT BUILDING SOCIETY

ART. 70.—After recommending the adoption of the Permanent instead of the Terminating principle, in the formation of all Benefit Building Societies, and the conversion into Permanent Societies of those Terminating ones which yet remain, it may not be out of place to add a few remarks, relative to their subsequent practical management.

At the commencement, great care ought to be exercised in the judicious selection of suitable persons as officers. The most important of these are undoubtedly the *Solicitor* and *Surveyor*, from their influence, for good or evil, on the operations of the society; for it is upon their testimony respecting the soundness and adequacy of the security offered for an investment, that its safety and prosperity entirely depend.

When a member is desirous of purchasing a house, or other similar property, he makes application to the directors, who instruct the surveyor to examine and report on the nature, position, and value of the proposed purchase. If these be satisfactory, they then direct the solicitor to examine into the right of sale or title which the seller possesses. Should this also prove unexceptionable, the money is advanced for the purchase, its repayment being secured by a mortgage on the property for an agreed term of years. Let us now examine the position of the Benefit Building Society with respect to this investment.



If, at some subsequent time, before the mortgage is cleared off, the borrower were to discontinue his payments, the society would be under the necessity of seizing the property and reselling it, in order to recover the remaining amount yet due to it. Thence would arise various chances of loss.

It may happen that the locality in which the property is situated may have diminished in public estimation, as is frequently the case with many parts of London and other large towns; or the necessary repairs to which any new Purchaser would be exposed, if they have been neglected by the late occupier, might be found too heavy. Perhaps by a wilful mis-statement or an error in judgment on the part of the surveyor, the house may have been estimated at more than its real value; or, lastly, some defect in the original title may be discovered. In any one of these cases an attempt to resell the property would occasion loss.

71.—Now these contingencies may in a great measure be averted by the selection of an efficient Committee, and of careful and respectable officers. An excellent arrangement exists in a society at Carlisle, by which those duties which are usually performed (or neglected) by the Committee, are distributed among a series of separate officials. The Committee consists of six, and undertakes the general management. Four money-stewards are appointed to attend the receipt of money, and to be responsible for its being duly accounted for. Four Inspectors, also, to examine the securities prepared for Advances. No member is liable to serve two of these offices at once.

The usual system, however, is to confide the whole management and supervision of the society's affairs to one Committee, who are assisted by a Solicitor, a Surveyor, a Manager, Auditors, Arbitrators, and Trustees. We proceed to make a few remarks on the duties appertaining to these several offices:—

1st. As regards the SOLICITOR, who examines the title to the property. This branch of law business, which is technically called "conveyancing," is one of great intricacy and difficulty, and requires peculiar skill and experience in the person who undertakes it. The title-deeds to property are often much involved, or present flaws and deficiencies, which can only be detected by searching and patient inquiry. On the other hand the prosperity of a Building Society, the security of its investing members during the continuance of a mortgage, and the subsequent undisturbed enjoyment by the borrower of the property purchased, depend solely and entirely upon the validity of these titles, and the correct appreciation of the property they represent.

For these reasons, the selection of a competent solicitor is one of the most important duties which belong to the directors of the society.

The person chosen should possess both experience and talent ; he should be a man of integrity and firm principle, incapable alike of being influenced by motives of interest or feelings of private friendship ; and, besides these indispensable qualifications, he should, if possible, in common with the other officers of the society, be possessed of a good connection.

72.—To secure the services of a person thus qualified, an adequate and liberal remuneration must be offered, instead of the insufficient fees, which are sometimes tendered by Building Societies to their solicitors. The recompense should be proportionate not only to the actual value of the work done, but also to the heavy responsibility attached to the office which they hold ; for, should the society sustain any loss through the inaptitude or carelessness of its solicitor, he is legally liable to make good the deficiency. Examples of this will be found in our chapter of Law cases, under the title SOLICITOR.

73.—Besides the necessity of offering an ample remuneration to the solicitor of a Building Society, it is also essential that the amount of his fees, whatever it be, should be fixed before hand, at the time of his election to the office.

74.—2ndly. The SURVEYOR of the society stands next in importance to the solicitor, his duties being attended with great difficulty, and considerable experience and judgment being requisite to enable him to form anything approaching to an accurate estimate of the pecuniary value of property.

This value will depend on several varying conditions. The tenure by which the property is held may be freehold, copyhold, or leasehold ; in the latter case the number of years yet unexpired in the lease must be taken into consideration. The neighbourhood in which the property is situated may be likely to rise or fall in public opinion. Any estimate, calculated on the amount of rent actually paid, is little to be trusted, as attempts are not unfrequently made to mislead the surveyor, by letting the property at a nominal rent much larger than is actually paid for it.

The surveyor, therefore, must not only be able to estimate the materials and cost of erection, but he must be well acquainted with the locality in which he is employed, and he must have sufficient experience to enable him to detect the artifices, by which the vendors of property endeavour to exaggerate its value.\*

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\* [The following useful hints to purchasers of house property are given by Mr. Truman. They should ascertain—

1st. That the house is not built on made soil, where the gravel has been dug out and sold.

2nd. That it has concrete foundations, of proper depth.

The false estimates, which are sometimes productive of so much loss to Building Societies, are not always the fruits of incapacity or inexperience. Cases have occurred of compacts between the surveyor and the vendor or the purchaser of property, or even some officer of the society, to share between themselves the profits of an unfair valuation.

To guard against the possibility of such fraudulent practices as these, a man of high moral integrity should be chosen; and he should, as well as the solicitor, be liberally remunerated for his services.

75.—Several expedients have been adopted, with the view of obtaining a check on the estimates of the surveyors of Benefit Building Societies. It has been recommended that they should be paid out of the ordinary funds of the society, instead of by the borrowing members individually, so as to destroy any reciprocity of action or feeling between them and the mortgagors of property. Some societies appoint a survey committee to act as a check between the surveyor and purchaser, and a regulation has been proposed to prevent any subsequent transfer of property, from a member to the surveyor, or to any individual of the survey committee. All these may be useful as auxiliary measures, but the necessity for them will be much diminished by a previous examination into the character of the person employed.

76.—3rdly. The **MANAGER**.—We have placed the Solicitor and the Surveyor of a society first in importance on the list of its officers, because we believe that, provided they are unexceptionable, and the manager be an honest, intelligent, and active man, little more is wanting to carry on with advantage an institution formed on a correct basis as regards its rates of subscription. It is, however, essential that any person proposed as a

3rd. That all the materials are new, and the bricks not place.

4th. That no iron chimney bars supporting the arch are absent.

5th. That the drainage is distinct and separate, properly connected with the main sewer.

6th. The strength of joists, quarterings, lintels, thickness of doors, floor-boards, panelings, in short quality and quantity of timber used. It is truly frightful to see how slightly houses are sometimes timbered.

7th. Whether grates, locks, and ironmongery are of the very cheapest description, unfit for wear.

8th. That it has a trap-door and fire-escape to roof.

9th. Avoid zinc gutters, cistern flats, &c., as zinc is a very temporary affair; insist upon lead or stone cisterns, &c.

10th. Find out if it is an estate where any scamping is allowed to create heavy ground rents and repairing leases.

11th. Investigate the title; see it is good and indisputable.

12th. If the parish has not taken the road, have money security for its costs from the seller.

Lastly. Insist upon a warranty (legally drawn up) with full specifications attached, and subject to penalties if not complied with.]



manager should be thoroughly acquainted with the fundamental principles of compound interest, and the practice of tables relating thereto. Much mischief and inequitable dealing has occurred in several of the existing societies, from the ignorance of their managers on that subject; and it would be well if some regulation were enforced, requiring that every person, who intends to become the manager of an association in which the savings of the poor are engaged, should first obtain from competent persons a certificate of his qualifications for the office. Since not a little depends on the zeal and attention with which the manager performs his duties, it is but reasonable that he should be paid as his exertions demand. Experience has long shewn that it is a sorry and false economy, not to give an adequate remuneration to men, who superintend the affairs of important institutions.

77.—One duty of the manager must specially be mentioned. He should make himself perfectly master of the Rules of the society, and the bearing of each clause upon the various matters of business, which he will have to submit, from time to time, to the Board of Directors at their periodic meetings. It cannot be expected that the Trustees or Directors should be as cognizant as their deputy of the practical effect of regulations, which they meet only at intervals to carry out; the responsibility therefore rests, very properly, on the manager; and he should be aware of the duties of his office, otherwise his society may fall into those positions of difficulty and even litigation, from the evil effects of which many institutions have greatly suffered.

78.—4thly. The AUDITORS of the society occupy also very responsible situations. The members entirely rely upon their careful examination, from time to time, of the accounts and balance sheets. Not only is it their duty to see that correct vouchers are produced corresponding to the items of expenses or receipts, but they should examine strictly into the formation of the annual or more frequent balance sheet, purporting to shew the pecuniary position of the society at the time of audit. Upon the faith of the statements contained in these balance sheets, it is customary for the directors of the institution to found their report of its progress. By erroneously placing sums to the credit of profit, which are not such in reality, subsequent loss has been created. [*See the following Chapter.*] For this reason it is of urgent necessity, that the auditors should be careful and experienced persons, well versed in the practice of book-keeping and the calculation of interest. In Part 2 of the present work, relating to Local Enterprise Encouragement Associations, we discuss at length the whole system of Audit in Public Companies, and recommend a more efficient inspection as necessary for the prevention of

fraud, and for applying a speedy remedy to defects of management. The system we there advocate is equally applicable to Benefit Building Societies, and its adoption would be found of great advantage.

79.—5thly. The ARBITRATORS.—As to these officers, see our Legal Chapter under the heading ARBITRATION.

80.—The TRUSTEES of the society, though last on our list, in reality are the most prominent, if not the most active of its officers. We may judge of this, from the fact of their names being so frequently paraded as evidence to the public of the general respectability of the association, and from the popular impression that they are numbered amongst its responsible officials. The high and recognized standing of many trustees leads us to wonder at the readiness with which they accord their names to uncertain schemes, and their being so unmindful of the injury likely to be caused by their imprudence to the public at large. [See *Art. 42 page 23.*] To correct this evil, a knowledge of the usual duties of their position, we are confident, is alone necessary. A slight degree of watchfulness, exercised in a properly constituted association, will protect them from sharing in the reprehension that otherwise would be justly due to them. As trustees of the society they should insist upon a strict adherence to the Rules established for its government, and also \*upon security being given by those officers, who act as recipients of the members' money.

81.—Turning from the officers of the society to the details of its practical working, we shall next examine several points respecting which there is considerable difference of opinion; even among persons who are most experienced in building society transactions.

With reference to the mode of granting advances to members, when there are applications for loans exceeding the amount of money which can be lent, three plans exist; viz. : either by *Bidding*, *Rotation* (that is, seniority on the list of applicants), or by *Ballot*. The two first appear to present more objections than the third, although it is extremely difficult to decide, what system can be adopted as likely to be entirely free from inconvenience.

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\* [Benefit Building Societies, we are told in this work, which may be considered the grammar of the system, are mainly intended for the benefit of persons of very moderate means; and yet their cash transactions are not upon the footing of that public respectability, which gives security, as for instance, in a bank. This is the first point to be considered; for even the wild miscalculations pointed out in some Terminating Societies will merely involve partial loss, or carry on their duration beyond the period specified. There must be security for the intromissions of those who are in any way concerned in handling the money of the company, or the wisdom with which the plan may be conceived will be no guarantee against ruinous loss. [*Chambers's Edinburgh Journal—Extract from Review of our Treatise on Building Societies.*]

82.—The plan of determining by *Bidding* who is to have the preference for an advance, consists in putting the sum proposed to be lent, up to auction among the members, and in finally allotting it to that person who offers the highest discount for it. This may be explained by an example :—In a 10 years society, suppose there is a sum ready to be advanced. The Chairman puts up, say, one share of £120, and enquires what discount will be allowed for it. The members present hand in written biddings to him, and he declares the highest discount offered ; upon which the bidding is commenced a second time, and the result is again declared ; and, finally, a third trial is made, and the advance is allotted to the member who has offered the largest discount. By this plan, members who had no intention to borrow, have had the power of raising the discount offered, by bidding during the first and second trials and abstaining the third time ; the profits derived by the non-borrowers increasing with the magnitude of the discount obtained. An attempt has been made to remove this objection by causing the biddings to be made by word of mouth, as at a public auction, and by only allowing one trial. The system of bidding, however, may still cause borrowing members to obtain advances on most inequitable terms, unless a limit be placed to the price, which they can offer. Cases continually occur, where discounts, for £120 shares, are given as high as £70 and even £80 in the first year. By this means the borrower receives only £50, or even £40, at the beginning, in lieu of £120, the full amount of his share at the end of the society. And, as he has to pay 14s. a month, for 10 years, or 8*l.* 8*s.* 0*d.* a year, his advance costs him considerably over 10 per cent. rate of interest.

83.—It is necessary, however, to caution the societies which adopt the Bidding system, or indeed any system by which a large discount or commission or premium is deducted from an advance at the time it is made, against representing the amount so deducted as immediately realised profit. The only light in which it can properly be viewed, is as a fund for increasing the interest to be received by the society on the Loan, and so providing an extra protective margin on the future repayments against loss on the security. For example, if a Loan nominally of £100 be granted at 5 per cent. for 10 years, and a discount of 4*l.* 14*s.* 0*d.* deducted, the rate of interest realised by the society on the actual money advanced, is 6 per cent. Again, if the rate of interest nominally charged be 7 per cent. and the discount 8*l.* 12*s.* 0*d.*, the interest actually realised is 9 per cent.

84.—Between the Rotation or Seniority system, and Balloting, it is difficult to make a choice. By the first a member puts his name down on



the list of applicants, and waits his turn for an advance. If the society has been some months in existence, when he joins or wishes to borrow, he may have to wait a considerable time before he obtains the loan he desires.

85.—By the *Balloting* plan, the names of all the applicants are placed together in a ballot-box, and one is drawn out by lot, to whom preference is given. To this last arrangement the modern societies seem to incline, because, without the enormous losses consequent on the *Bidding* system, and the delay certain to attend that by *Rotation*, each of the borrowing members individually has a chance of being fortunate enough to obtain the first right to an advance.

As the names are drawn out of the ballot-box a list is formed in the order of which the loans are to be granted. If there be not money enough to suit all the applicants at once, those members whose names remain on the list have preference at the next advance before any subsequent ballot, provided they have been six months in the society.

86.—It has been imagined that the system of Balloting is not legal, inasmuch as it might be considered a species of lottery. Such an impression is entirely without foundation, since the ballot is merely introduced in a permanent Building Society for the simple purpose of collecting for an individual preference the names of the members, who desire to become borrowers and receive advances, for which each and all have to pay after the same rate of subscription and interest; no favour in respect of repayment being obtained by any. The ordinary lotteries were very properly prohibited from very different motives, because they encouraged a system of gambling, by which one man was made rich, while his less fortunate rivals became impoverished. No analogy exists between the two cases.

If the Bidding or Rotation plan be preferred, there would be found no difficulty in applying either to a permanent Building Society, but a clause should be introduced to obviate too great improvidence on the part of competing borrowers in the former case, or the disheartening delay of the latter system.

87.—With respect to the important question, how the *surplus bonus* to Investing members should be ascertained and divided, errors of a grave character are frequently committed by societies. It appears to be thought by many that when a Valuation has been made of the future Repayments remaining to be received from the borrowing members, the whole of the surplus shown may be taken to be realized profit, and allotted to the Investing Shares accordingly. If any portion is reserved to a Guarantee Fund, that portion is frequently fixed at a very small amount, such as £100 or £200. The necessity of ample and liberal reserves, is one which practical advisers find the greatest difficulty in enforcing on the managing

bodies of Building Societies. Every estimate of the present value of the mortgages assumes necessarily that the Repayments will be punctually kept up, and until that has been proved to be the case by the complete discharge of the securities without loss to the society, the surplus profit on the transaction is not, in point of fact, realised. If the whole of the calculated surplus, therefore, be divided, and the members, who were in the society when the mortgages were granted, complete their shares and receive their Bonus, then, should loss subsequently arise on those mortgages, it would have to be borne by the members entering after they were granted, attracted probably by this fallacious estimate of profit. The amount of reserve to be deducted, before an actual division of profit, must be determined in each case by the circumstances of the society, and the length of time the several mortgages have still to run, but to divide profits without making an ample reserve for contingencies of loss, is a highly dangerous proceeding.

88.—In *the general conduct* of the society it ought to be borne in mind, that, at its commencement, a liberal yet careful outlay is requisite, to give due publicity to its principles in the districts over which its operations are proposed to extend. The preliminary expenses may perhaps be large in amount, but where they have been judiciously incurred, they are sure to be amply repaid by the future extent and importance of the institution. In order to effect legitimately and advantageously the main object of Benefit Building Societies, care should be taken that the personal interests of no individual member are sacrificed by the adoption of any unjust regulations, which may have been introduced for the special advantage of another. As the chief aim is to provide a home for those, who otherwise might not be in circumstances to obtain it, the amount of available funds during each year should be so apportioned as to supply the greatest possible number with advances. Where a member has pecuniary means of his own, he ought readily to apply it towards part of his purchase, so that his less fortunate neighbour may participate to the fullest extent in the assistance which the society can afford him.

Again, there is in general less spirit of speculation on the part of a borrower, who intends to occupy the house himself which he desires to buy, and it is found by experience that more substantial property is offered for security in such cases.

89.—It is desirable that no meeting of the society should ever be held at any tavern or public house. The members may save much money by the adoption of this rule. They may do more: they may deliver themselves from the temptation to form habits of intemperance and useless expenditure, which, to view them in no worse light, well nigh counterbalance all the advantages to be derived from these institutions.

90.—*The Rules* should be framed by persons well versed in the principles and practice of Benefit Building Societies, so that the advantages of both sound and new features may be secured. All such provisions, as experience has proved to be productive of loss or inconvenience, must be excluded. The set of rules in our Treatise on Copyholds are applicable to the proposed permanent plan, which we have prepared, of a Building Society, and may be adapted to the circumstances of particular localities. They have been carefully modified, since the publication of our first draft set in 1847, by the results of uninterrupted experience, and by valuable suggestions communicated by the certifying Barrister for England, Mr. John Tidd Pratt;\* and we recommend them as providing a sound basis for any society, although we are far from believing, that they should be adopted, without modification, as fitted to every part of the country.

91.—The promoters of new societies should carefully abstain from engrafting corrections upon the draft rules in question, which their inexperience may prevent them from perceiving, might have the effect of utterly destroying the connected link of principles by which the various clauses hinge upon each other. That this caution is not unnecessary, we may mention, by way of anecdote, that one of the most flourishing societies at present in Middlesex, had to go through the expensive operation of a revision and fresh registration of its clauses, after a great number of copies of its prospectuses and rules had been printed ready for circulation. This arose from the promoters having adopted the general characteristics of our first draft set of rules, upon which they had made such fanciful alterations, that the system in their hands became a chapter of inconsistency; and they were put to expense in retracing their steps, which in great measure might have been obviated by a more legitimate proceeding at first.

92.—Particular care should be taken in the rules to define accurately the method of distributing Bonuses out of surplus profits among the members.

In many societies, the rules relating to profits are drawn so carelessly, as to give rise to much dissension and dispute between the members as to the interpretation to be placed upon their provisions. It is the more


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\* [The certifying barrister in Ireland is Mr. J. Lysaght Griffin, and in Scotland, Mr. A. Carnegie Ritchie. The annual reports of both these gentlemen on Friendly Societies, like that of the senior official in England, contain much matter of great interest. It cannot be too strongly urged upon the public mind, however, that their province does not extend beyond certifying the *legality* of the Rules proposed to be adopted by a Society:—the certificate is no evidence of the practical soundness of their provisions. These provisions may be such as to render disaster certain, and yet present no legal flaw for the certifying Barrister to discover.]



important that care should be taken on this point in the first instance, that there is difficulty in afterwards altering a rule relating to profits where vested interests exist.

93.—The Directors should be cautious not to offer too much discount on shares paid in advance. It may be safe to hold out a promise of accumulations from interest, by the end of a term of years, at even 5 per cent. or more; but it does not follow that it would be equally so, to allow 5 or  $4\frac{1}{2}$  per cent. discount on money tendered in advance. The distinction is obvious:—in the one case, the undertaking is simply to give the result of the interest after it has been realised; in the other, the equivalent is parted with at once and a grave responsibility unnecessarily incurred of so investing the money received as to recover the discount (or forestalled interest) paid in advance.

 [*For amendments necessary in the Law of Benefit Building Societies, see the Preliminary Remarks to this Volume.*]

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## CHAPTER VI.

### THE BALANCE SHEETS OF BENEFIT BUILDING SOCIETIES.

ART. 94.—We have mentioned before, that it is customary for all Building societies to produce, once a year at least, a balance sheet relative to the state of their pecuniary affairs, which is certified by the auditors as correct, and generally concludes with an estimate of the improvement in the value of the shares, attained by the operations of the preceding year. It is evidently of the greatest importance, that such statements should be accurate, for, if a fictitious amount of profit be declared, the directors, not being aware of the error, are induced to make a corresponding augmentation in the entrance fee, to be required from any one, who may subsequently desire to join the society, and to participate in the supposed profits; the effect of which would be to deter persons from entering, and the scope of the association would be curtailed. The existing members also would conceive a false impression respecting the pecuniary value of their shares; and, if any of them should desire to withdraw from the society before its termination, they would expect, and the directors might be led to pay to them, a premium equivalent to the profit declared, which, if it be overrated, must be prejudicial to the interests of the general body of shareholders. Considerable sums are in this manner frequently paid away in the early stages of societies under the name of bonus, which create an irreparable deficiency in the accumulated funds at the epoch of their intended termination. In a variety of cases, which have come before our notice, this mischievous circumstance has occurred, and has been found to have produced a most unfavourable effect on their financial position.\* Moreover, many members who might be disposed to seek for advances, imagine that, if so large a profit can be made so soon, they surely would have to pay too high a rate of interest for the loan desired. They become

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\* The case is similar in its effect to that of a bankrupt tradesman, whose assets would enable him to pay 15s. in the pound to his creditors, but who, by giving 20s. to some of them at first, leaves but 10s. in the pound to those who are paid afterwards.

consequently dissatisfied, and do not borrow. Nor is the pernicious effect of these erroneous estimates confined to the members of the society, in which they occur. The false experience and superficial success, thus created, are quoted by the promoters of new associations formed on the same scheme, and serve both as an excuse for copying it, with all the errors it contains, without further inquiry into its safety or practicability, and as a means of attracting members eager to participate in similar advantages.

95.—Such are the evil consequences attending an inaccurate statement of the position of a society at the end of any year; and, yet, in many instances, the Balance sheets contain mistakes equally important with those, which are found in the rules and rates of subscription.

The main source of error consists in the practice of inserting the whole nominal amount of a share, for instance £120, as having been lent in cash to a borrowing member, when probably he has only received £55 or £60. This is obviously incorrect, since it matters not what is the nominal value of the share, but merely what present sum in money has actually been advanced upon it, in lieu of the full amount, which the shareholder would otherwise be entitled to claim at the close of the society, and for which advance he has to pay a monthly annuity for a certain number of years.

96.—In general, the only profit, which can be apparent in the annual statements, is that resulting from the *interest* already obtained through investing the subscriptions in loans; and, as such, is merely what was assumed as probable in the fundamental calculations. By the accumulations of interest, year by year, the expected amount of the shares can alone be realised, and the yearly profit thus produced is not a matter of congratulation, as if it were unexpected, but simply the means, by which the suppositions, forming the basis of the society, are rendered true. Hence, if profit at the end of any year be shewn, it cannot be carried to the credit of any but the *investing* or non-borrowing members, who are making their monthly payments in the hope of receiving, at the end of a certain number of years, the promised accumulation of their subscriptions and compound interest thereon, which together are represented by the shares they hold. The borrowers having cancelled their shares by the loans obtained, are not interested in or entitled to, any portion of the profit or interest realised.

97.—The question, however, may be said to present some difficulty of conviction, as it is frequently objected by Borrowers, that as, in a Terminating Society, they are exposed to participate in any losses, which may affect its duration, it would be but fair that they should also share in the pecuniary prosperity of the association. To this, which is but another proof of the evil of high-flown balance sheets, it can be only answered, that, as they have received their shares in advance, and frequently on very favourable terms, they should not afterwards claim a part of the profits, by which alone non-borrowers can expect to receive an advantage from the society equivalent to that already secured by the borrowers. Moreover, practically, the Borrowers are greatly benefited, in the end, by a *non-participation* in the annual profits; inasmuch, as the more rapidly the unadvanced shares improve in value, or progress towards completion, the sooner will the society arrive at its termination, and the sooner they will be entitled to cease their payments, and to have their deeds returned to them endorsed with the usual receipt.

98.—The plan, hitherto adopted, of making a Balance sheet serve to give an estimate of the profit annually realised on the shares, is productive of the greatest confusion. The terms Dr. and Cr. tend to mislead, if the figures under their head are considered

relative to profit or loss experienced. A balance sheet merely supplies information as to the items of money received, and the mode in which such receipts have been disposed of. It can express no opinion, as to whether any advantage or disadvantage has been derived from the way in which the money has been laid out, but simply conveys the facts as they have occurred; and, as such, it is useful and necessary for the protection of the shareholders, because it shews clearly how the pecuniary affairs of the association are managed. In the other point of view it is not of much value, as something more is required, than a mere statement of money received and money spent or invested, to attain a satisfactory knowledge of the position of the society, as regards profit or loss incurred. When the Auditors see under the head of Cr. a heavy item for expenses of management, it does not occur to them that so much money is sunk and gone from the society for ever; the money is accounted for, that is all.

99.—To arrive effectually at the actual value of the shares, an annual valuation of quite a different character should be made, on the same plan as that adopted by Life Assurance companies; by which, not only the sums received, and then invested or spent, or paid out on withdrawal, are considered; but the *present value* also is estimated of the profit to be expected from the advantageous nature of the society's investments in the advances to the borrowers, relatively with the *present value* of its engagements in respect to the shares held by non-borrowers. This is not the business of a mere balance sheet, but must be effected by a correct mathematical calculation, in which the expected duration of the subscriptions, and the interest actually realised, are taken into account.

100.—This distinction has been overlooked by several writers in periodicals treating of this subject, who, in reviewing balance sheets, appear to believe, that in order to ascertain correctly the yearly profit or loss of a society, it is sufficient to form a profit and loss account, placing on the one side the various items of receipts from entrance fees, redemption fees, fines, &c., and on the other side the expenses, and to consider the balance, whichever it be, profit or loss, as representing the true value of the shares. The same rule being applied indiscriminately to every description of Benefit Building society, without any reference to the essential consideration, as to whether the rates of investors' subscriptions or borrowers' repayments are adequate to the originally promised results. The members, however, can feel no security, respecting the actual progress of the society and their own future liabilities, unless an accurate estimate of the profit and loss experienced by it be made from time to time; and we would strongly impress upon them the necessity of insisting on the production periodically of a complete valuation of the position of the society, distinct from the ordinary balance sheet.—[See *Schedule C, Art. 103.*]

101.—Having mentioned the correct method, which ought to be adopted, we will proceed to give three specimens of balance sheets taken at random from a number of similar reports, for the purpose of shewing how they have hitherto been prepared; and to draw attention to the injurious effect of exaggerated declarations of profit.

102.—It is essential to bear in mind that the mischief, produced by an erroneous view of the profits of the society, is even more serious in the earlier stage of its existence than afterwards, as the loss created by paying away money in the shape of Bonus to persons withdrawing, is increased with the number of years yet remaining of the proposed duration of the association. For example, suppose £500 be declared by way of Profit at the end of the 3d year of a 13 years society, which is realizing an average rate of interest of 7 per cent.; since money doubles at 7 per cent. in 10 years, the £500 profit,



if paid away when declared, would cause a deficiency of £1000 at the end. As no evil is, generally, without a remedy, so immediate steps may serve to restore the association to its sound position. We, therefore, urge upon the Directors of all such societies to have their last balance sheet carefully re-adjusted, and the basis of their subsequent statements settled upon correct and intelligible principles. The matter presents comparatively little difficulty, and a downward course of injudicious payment of supposed profit out of capital may be stayed. They would thus be enabled not only to ascertain satisfactorily, from time to time, the precise value of the unadvanced shares, but also to determine the probable duration of the borrowers' mortgage-repayments; a point in itself of vital importance to that responsible class of members.

## BALANCE SHEETS.

## No. 1.

Extract from the first report of the ——— Society. Shares, £120; monthly subscriptions, 10s. per share (see page 23) :—

"The directors have to congratulate the members on the success which has attended the operations of the society during the past year—a success which verifies the correctness of the prospectus issued at its formation.

"The balance sheet shews the superior advantage of building societies over other modes of investment; for if the amount received had been placed—say in a savings' bank, the profit would have been about £43., or 1s. 10½d. per share; while by the legitimate operations of the society, the profit secured has amounted to 2738*l.* 18*s.* 8*d.*, or 6*l.* 0*s.* 9½*d.* on the £6 per share paid,—making the present value 12*l.* 0*s.* 9½*d.*"

Copy of the balance sheet annexed to the report, given verbatim :—

*"Dr.*

Entrance money	...	...	...	...	£70	2	6		
Subscriptions in advance	...	...	...	...	1	0	0		
Subscriptions for twelve months	...	...	...	...	2530	10	0		
Forfeited shares	...	...	...	...	2	0	0		
Fines ...	...	...	...	...	12	1	0		
Transfers	...	...	...	...	9	5	0		
Postage	...	...	...	...	2	11	0		
Interest	...	...	...	...	21	12	10		
								2649	2 4
Premiums (or discount) on 33 (£120) shares taken up					1016	5	0		
Premiums on 12½ shares not taken up, but for which the society has funds	...	...	...	...	764	10	0		
								2680	15 0
<i>"Arrears :</i>									
Subscriptions	...	...	...	...	190	10	0		
Fines	...	...	...	...	17	16	0		
Interest	...	...	...	...	2	0	0		
Postage	...	...	...	...	1	1	6		
								211	7 6
								£5541	4 10

<i>“Cr.</i>									
By formation expenses, including enrolment of rules, and deed boxes	...	...	...	...	£25	14	2		
Manager's salary	...	...	...	...	50	0	0		
Postage	...	...	...	...	5	12	0		
								81	6 2
By mortgage property	...	...	...	...	480	0	0		
"    "	...	...	...	...	240	0	0		
"    "	...	...	...	...	240	0	0		
"    "	...	...	...	...	204	0	0		
"    "	...	...	...	...	960	0	0		
					3960	0	0		
By arrears of subscription	...	...	...	£211	7	6			
Premiums	...	...	...	764	10	0			
Cash at bankers	...	...	...	524	0	10			
Cash in manager's hands	...	...	...	0	0	4			
					1499	18	8		
								5459	18 8
								£5541	4 10
To balance in favour of the society									
brought down	...	...	...	£5459	18	8			
Deduct subscriptions on 453½ shares, at £6 per share	...	...	...	2721	0	0			
Net profit realised	...	...	...	£2738	18	8	= to 6 0 9½ per share		
							Cash paid 6 0 0		
The present value of each share				...£12	0	9½"			

The directors, in the above, congratulate the members on the success of the society, which they affirm is manifested by the profit, *6l. 0s. 9½d.* per share, realized in one year beyond the £6 year's subscription paid, a result equivalent to more than 100 per cent. interest for the money.

This statement is, however, not correct; and the error arises from the *whole nominal amount* of the 33 *advanced* shares, or £3960, being entered to the Cr. as having been lent in mortgage, whereas in reality the *difference* 204*l. 15s. 0d.*, (between £3960 and the *discount or premiums* 191*l. 5s. 0d.* given by the borrowers for the loan) is all that has been advanced. Moreover, the item 764*l. 10s. 0d.*, respecting the shares *not taken up*, but for which premiums have nominally been given, has obviously nothing to do with the business of the *past* year, and ought not have appeared in the balance sheet.

These considerations change the result:—The following is a copy of the preceding balance sheet, arranged as it *should* be; *viz.*: by placing only the money *actually received* or due for arrears on the one side, and money *actually paid* on the other.

## "Dr.

Entrance money	...	...	...	...	£70	2	6		
Subscriptions in advance...	...	...	...	...	1	0	0		
Subscriptions for twelve months	...	...	...	...	2530	10	0		
Forfeited shares	...	...	...	...	2	0	0		
Fines ...	...	...	...	...	12	1	0		
Transfers	...	...	...	...	9	5	0		
Postage (received from members)	...	...	...	...	2	11	0		
Interest	...	...	...	...	21	12	10		
								2649	2 4
<hr/>									
"Arrears :									
Subscriptions	...	...	...	...	190	10	0		
Fines ...	...	...	...	...	17	16	0		
Interest	...	...	...	...	2	0	0		
Postage	...	...	...	...	1	1	6		
								211	7 6
								£2860	9 10

## "Cr.

By formation expenses, including enrolment of rules, and deed boxes	...	...	...	...	25	14	2		
Manager's salary	...	...	...	...	50	0	0		
Postage (year's expense to the society)	...	...	...	...	5	12	0		
								81	6 2
By 33 shares taken up, value at £120 each	...	...	...	...	3960	0	0		
Less the discount (or <i>Premiums</i> )	...	...	...	...	1916	5	0		
					2043	15	0		
By arrears of subscription	...	...	£211	7 6					
Cash at bankers	...	...	524	0 10					
Cash in manager's hands	...	...	0	0 4					
					735	8 8			
								2779	3 8
								£2860	9 10

---

To balance in favour of the society brought down	...	...	...	...	£2779	3	8		
Deduct one year's subscriptions on 453½ shares, at £6 per share, and the £1 in advance	...	...	...	...	2722	0	0		
Difference	...	...	...	...	£	57	3 8"		

---

which, divided among the number of investors' shares, or those which have *not* been advanced, will give the dividend apparently realised per share for the past year.

But the number of *unadvanced* shares is 453½ less 33, or 420½, and 57l. 3s. 8d. divided by 420½ equals 2s. 5d. nearly, which is the result of the past year's operations of this building society, *as far as the above debtor and creditor account is concerned*, and entitles the investors to receive 2s. 5d. per share at its *termination*, in addition to the £6 paid by each.

The *true value* of each share can only be ascertained by the method described in the preceding pages, in which would enter the various considerations deduced from the particular nature of the society.



## No. 2.

"The ————— Mutual Association.

Original entrance fee, 2s. 6d. Monthly subscriptions, 10s. Redemption, 4s. per share of £120 each.

In the *third* annual report of this society, the directors state, that 85½ shares have been advanced during the last year, which, added to those in the two previous years, make a total of 261½ shares, on account of which securities have been lodged with the society.

"Since the auditing of the accounts, 5½ shares, not included in that number, have been further advanced, which will make 267 out of 635 shares subscribed for; and the directors are under engagements to advance 20 shares out of the fourth year's capital.

"The *present entrance fee* upon new and additional shares is £6; but upon shares being taken to complete a purchase it is only 2l. 2s. 0d., at which sum it was agreed they should continue until after the shareholders' meeting in January last.

"The minimum premium or discount upon purchased shares has been fixed by the directors at £55 per share for the fourth year."

Summary of the financial statements as appended to the report:—

"General Account, for the Third Year.

"Dr.

To cash, as per last account	...	...	...	...	£8329	17	1
Subscriptions, third year	...	...	...	...	3650	16	6
*Interest, entrance fees, fines rules, transfers, &c.	...	...	...	...	590	0	7
Forfeit on purchased shares	...	...	...	...	60	0	0
*Arrears of subscriptions, fines, interest, &c.	...	...	...	...	100	16	0
Cash advanced as a loan	...	...	...	...	4085	0	0
Premiums as per last report	...	...	...	...	10626	19	5
Premium, third year	...	...	...	...	4938	17	6
					£32382	7	1

"Cr.

Expenses, first and second year	...	...	...	...	204	11	3
Interest on loans (2 years)	...	...	...	...	65	4	0
176 shares advanced, first and second year...	...	...	...	...	21120	0	0
85½ ditto, third year	...	...	...	...	10260	0	0
Management Expenses, third year	...	...	...	...	77	18	2
Interest on loans	...	...	...	...	183	4	4
Ground rent and insurance	...	...	...	...	11	1	2
Arrears, as above	...	...	...	...	100	16	0
Cash with bankers	...	...	...	...	359	12	2
					£32,382	7	1

\*[The practice of throwing several items together to account for so large a sum as £500, as in the third line of the above debtor account, is unfair, and may justly become the subject of animadversion among the shareholders.]

## Profit Account.

"Dr.

Expenses for three years	...	...	...	...	...	282	9	5
Subscriptions, ditto	...	...	...	...	...	11361	9	0
Interest, ground rent, and insurance	...	...	...	...	...	259	9	6
Arrears	...	...	...	...	...	100	16	0
Loans	...	...	...	...	...	4085	0	0
Cash with bankers	...	...	...	...	...	359	12	2
Profit and bonus	...	...	...	...	...	15933	11	0
						£32,382	7	1

"Cr.

By account as above	...	...	...	...	...	£32,382	7	1
						£32,382	7	1

"Shewing :

Profit and bonus brought down, divided between 635 shares of £120 each	...	...	...	...	...	25	2	0
Subscriptions paid	...	...	...	...	...	18	0	0
Estimated portion of each share cancelled in three years	...	...	...	...	...	£43	2	0

The above account contains various errors, and the items are injudiciously mingled together. The profit 15,933*l.* 11*s.* does not in reality exist, as it is in great measure an imaginary advantage, supposed to have arisen from the discount given by borrowers on their shares, and, as such, ought not to have appeared in the balance sheet.

We will not examine what would be found to be the actual value of the shares, supposing a proper calculation made, but simply remark, that the above furnishes ample evidence of the deficiency, arising from the expenses, which must exist towards the epoch of a society's termination, if they so considerably diminish, even in three years, the interest realised on the investor's subscription; for the receipts from interest and fees, including the forfeited shares, altogether only amount to 650*l.* 0*s.* 7*d.*, of which 541*l.* 18*s.* 11*d.* has been absorbed by the expenses, leaving 108*l.* 1*s.* 8*d.* to be divided between 368 unadvanced shares, which is about 5*s.* 10*d.* per share, and is all the interest obtained for three years' subscriptions on each.

Such a result speaks for itself.

## No. 3.

The----- Society.

Original entrance fee, 2*s.* 6*d.* *present one*, £1 per share. Shares, £120. Monthly subscriptions. 10*s.* Redemption fee, 4*s.* per share.

In the first annual report the directors allude to the *success* which has attended the progress of the society:—

"There are 113 members, holding 211½ shares, and the total profits, after deducting expenses, amount to 1069*l.* 17*s.* 9*d.*, being 5*l.* 1*s.* 2*d.* per share; which added to the subscription of 6*l.* paid on each share, shows a profit of 11*l.* 1*s.* 2*d.* to be the progress made towards the realisation of each share."

The following are abstracts of the financial statements:—

"Dr.				"Cash Account.			
Subscriptions on shares	...	...	...	...	...	£1258	10 0
Entrance and redemption fees, fines, rules, &c.	...	...	...	...	...	60	13 9
						£1319	3 9
<hr/>							
"Cr.							
Expenses	...	...	...	...	...	66	14 9
Advances on 19½ shares	...	...	...	£2340	0 0		
Less premiums thereon	...	...	...	1106	5 0		
						1233	15 0
Balance with bankers	...	...	...	...	...	18	14 0
						£1319	3 9
<hr/>							
Profit Account.							
"Dr.							
To expenses	...	...	...	...	...	£66	14 9
Balance or profit of the first year	...	...	...	...	...	1069	17 9
						£1136	12 6
<hr/>							
"Cr.							
Premiums on 19½ shares	...	...	...	...	...	£1106	5 0
Subscriptions and fines in arrear	...	...	...	...	...	11	13 6
						1117	18 6
Balance in bankers' hands	...	...	...	...	...	18	14 0
						£1136	12 6
<hr/>							
Profit brought down:							
£1069 17s. 9d. divided by 211½ shares, gives	...	...	...	...	...	£5	1 2
Subscriptions paid	...	...	...	...	...	6	0 0
						£11	1 2"
<hr/>							

The above result is fictitious in consequence of the discount or premiums 1106*l.* 5*s.* 0*d.* given by the borrowers on the nominal value of their shares, being entered as actual profit or cash realised. Instead of any *interest* having been produced by the past year's business, we find that the expenses have even entrenched on the receipts from *subscriptions*:—

For the expenses paid amount to	...	...	...	...	£66	14 9
Less fees, fines, &c. to be received or in arrear	...	...	...	...	60	13 9
Leaving a deficiency of						£6 1 0
						<hr/>

which divided among the 192 *unadvanced* shares, gives a deficiency of about 7½*d.* per share.



## \* ART. 103.—SCHEDULE C.

## Form of Liabilities and Assets Account.

*Dr.*

1.	Outstanding accounts unpaid: viz. ...	• ...	...£	_____	£
2.	Loans and interest thereon due by the society: viz. ....£	.....		_____	
3.	†To <i>net</i> subscriptions actually received upon	shares (now			
	actually in existence) of depositing (or non-borrowing) members,				
	from the	of	18	, to	the
	18	...	...	...	...
4.	To interest due thereon up to this date and calculated at	per			
	cent. rate of interest, (being the rate obtained from the borrowers,				
	or that promised to the depositors by the rules)	...	...		
5.	To reserve for future expenses during	years...	...	...	
	Total	...	...	£	_____

*Cr.*

1.	By cash in hand: viz.,	.....£	_____	
		.....		
2.	Value of property in possession, through default, if sold to produce			
	assets	...	...	...
3.	ARREARS due upon existing mortgages: viz.,			
	Re-payment subscriptions	...	...	...£
	Fines and fees...	...	...	...£
4.	† By arrears of fines and fees due from non-borrowers	...	...	
5.	Present value of future re-payments on existing mortgages, calculated			
	at	per cent. rate of interest	...	...
	Total	...	..	£
	Balance	...	...	£

The above has been prepared by me, \_\_\_\_\_ Chairman or Secretary, this  
of 18 , at

\* [Schedules A and B relate to the general business of the Society, and may be had on application to the Author.]

† NOTE.—[The arrears of *subscriptions* due from non-borrowers must not be taken into account, as the society is only made debtor to them for the *net* Subscriptions received.]

Return to be made for the purpose of a Valuation of the Amount due in respect to the Unadvanced Shares in force on the

[illegible]

## CHAPTER VII.

### ALPHABETICAL DIGEST

OF THE

EXISTING LAW RELATING TO BUILDING SOCIETIES.

It has been already explained in the Introductory Remarks that, while it is hoped that the Digest, contained in the following pages, will afford an abstract of the existing Case-Law and Acts of Parliament useful for Solicitors, Managers, and Directors of Building Societies, yet its main object is, to prepare the mind of the Reader for the general amendments in the Law, which our experience, since the publication of the first edition of our Treatise on Building Societies in 1847, leads us still to recommend. (See pages vii to xii.)

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## ACCOUNTS.

### 1.—*Accounts to be rendered by the Society :—*

- "Once in every year a general statement of the funds and effects shall be prepared, specifying in whose custody such funds or effects are placed.
- "Also an account of the receipts and expenditure during the year.
- "All to be attested by two auditors, and countersigned by the secretary.
- "A copy to be given to any member, on demand.
- "Rules may provide, that any member demanding such copy, shall pay a sum not exceeding sixpence."—(10 Geo. 4, c. 56, s. 33).

### 2.—*Accounts to be rendered by individuals :—*

Any person (whether a member or not) receiving money on behalf of the Society, or entrusted with any of its property, must render account thereof.

In default, the Society may petition the Court of Chancery, who may proceed in a summary way, and make an order, upon hearing all parties, which shall be final and conclusive.—(10 Geo. 4, c. 56, s. 14).\*

This summary remedy does not take away the right of the Society to an action-at-law.—(*Sharp v. Warren*, 1818, 6 Price, 131.)

This case was decided upon the old Act, 33 Geo. 3, c. 54, s. 8; but sect. 14 of 10 Geo. 4, c. 56, was framed upon that clause, and the decision, therefore, holds good.

## ACT.

3.—The Act relating to Building Societies, 6 & 7 Wm. 4, c. 32, (1836,) is a public Act, and extends to Great Britain, Ireland, and Berwick-upon-Tweed.—(s. 9.)

It consists, not merely of its own nine sections, but also of every clause in the 10 Geo. 4, c. 56, and the 4 & 5 Wm. 4, c. 40, which is applicable to Building Societies.—(s. 4.)

These Acts have since been repealed, but that repeal does not affect their bearing on Building Societies, as for the purposes of Building Societies their clauses are incorporated with those of the 6 & 7 Wm. 4, c. 32, which has not been repealed.—*Reg. v. Merionethshire* 1844, 6 Q. B. 343 and *Walker v. Giles* (per Wilde, C. J.) 1848, 6 C. B. 662, 18 L. J. 343 C. P.

The benefits of the Act extend to Societies established before the 1st June, 1836, provided their Rules are certified and deposited according to 10 Geo. 4, c. 56, and 4 and 5 Wm. 4, c. 40:—no such Society was required to alter its Rules.—(s. 7.)

## ACTION. (See PROCEEDINGS.)

4.—An action, for arrears due on a Mortgage, and generally for causes arising out of the relation of Mortgagor and Mortgagee, between the Member and the Society, may be maintained—

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\* [The jurisdiction was vested by the Act in the Court of Exchequer; but it has been transferred to the Court of Chancery along with all the Equity jurisdiction of the Exchequer Court, by the Act 5 Vict., c. 5.]

notwithstanding a Rule for reference to Arbitration of disputes between a Member and the Society.

*Morrison v. Glover*, 1849, 4 Exch. 430; *Fleming v. Self*, 1854, 3 De Gex, M. & G., 997; *Scratchley on Copyholds*, App. 27; *Farmer v. Giles*, 1860, 5 H. & N., 753.

5.—An action, for breach of the covenant for repayment in the Mortgage Deed, may be maintained, notwithstanding the Directors have their remedy by collection of rents or by sale.

*Reeves v. White*, 1852, 17 Q.B. Rep. 995, 21 L. J. Q. B., 169; per Lord Campbell, C. J.

6.—If the Rules provide that no action shall be brought without the consent of a *Special Meeting*, the Meeting giving such consent need not be one called for that purpose alone, but may proceed to other business, if due notice has been given.

*Cutbill v. Kingdom*, 1847, 1 Exch., 494.

## ALTERATIONS.

7.—Alterations of Rules may be made at a General Meeting of the Members, convened by written or printed notice, signed by the Secretary or President, or other principal Officer or Clerk, upon a requisition by seven or more Members. The requisition and notice must be publicly read at the two usual Meetings held next before the General Meeting. The General Meeting may appoint a Committee to make the alterations. No alteration is to be made without the concurrence of three-fourths of the Members present, or of the Committee.—(10 Geo. 4, c. 56, s. 9.)

8.—The seven Members signing the requisition can compel the Secretary to give notice of a Meeting for Alteration of Rules.

In *Reg. v. Bannatyne*, 1851, 20 L. J. Q. B., 210, Erle, J. refused a Mandamus, but his decision was overruled on a review of the case. See 17 Q.B., 524.

9.—All alterations must be certified by the Government Barrister, upon an affidavit from the Secretary of the Society that all the provisions of the Act and of its Rules have been complied with. If the Barrister refuse to certify, appeal may be made to the Quarter Sessions.—(10 Geo. 4, c. 56, s. 5.)

The following is the Form of Affidavit:—

“ I, ..... of .....  
 “ the Clerk (or Secretary, or one of the Officers) of .....  
 “ Society, held at ..... in the county of .....  
 “ make oath and say, that in the making the alterations or amendments in the



"Rules of the said Society, the provisions of the Act under which the Rules of the said Society are certified, have been duly complied with.

"Sworn this.....day of.....18....., before me,

"....."

"A Justice of the Peace, acting for....."

10.—No fee is due to the Barrister if the alterations are made within three years after enrolment, nor if they are Copies of Enrolled Rules of any other Society.—(4 & 5 Wm. 4, c. 40, s. 5.)

11.—Members under notice of withdrawal would probably not be bound by alterations subsequently made.

*Armitage v. Walker*, 1855, 2 Kay and Johnson, 211, per V. C. Wood.

## ARBITRATION.

12.—Unless the Rules of the Society provide for a reference of disputes to the Justices of the Peace, the only remedy in case of differences between a Society and its Members (as Members), is by a reference to Arbitration.

The jurisdiction of the Superior and other Courts of Law is taken away by 10 Geo. 4, c. 56, ss. 27, 28, 29.

"It is contended on the part of the defendants, that this enactment" (9 Geo. 4, c. 92, s. 45, relating to Savings Banks, which is of similar import to the 10 Geo. 4, c. 56, ss. 27, 28, 29, which relate to Building Societies) "is imperative upon the plaintiff, taking away the jurisdiction of the Courts of Common Law, and leaving the party who complains no other mode of determining his claim than that which is pointed out and provided by the Act. It is not denied, on the part of the plaintiff, that the present case falls within the description of those contained in the section: indeed, it would be impossible to argue that the present is not a dispute between persons acting under the Institution and an individual depositor; but it is contended by the plaintiff, that the jurisdiction of the Courts of Common Law is not ousted by any word to be found in this section; and that the utmost which the section contemplates is to create a concurrent and not an exclusive jurisdiction in the arbitrators. But we are of opinion, that both with reference to the words of the Statute and the object which it had in view, the plaintiff is barred from maintaining the present action in a court of law, and must pursue the remedy provided by the Statute. It is, undoubtedly, true that the jurisdiction of the Superior Courts of Westminster is not to be ousted, except by express words, or by necessary implication (*Cates v. Knight*, 1789, 3 T. R., 4+2); yet where the object and intent of the Statute manifestly require it, words that appear to be permissive only, shall be construed as obligatory, and shall have the effect of ousting the courts of their jurisdiction. As in *Cates v. Knight*, where a clause enacted, that it shall and may be lawful for a Justice of the Peace to hear and determine offences against the Act, that subject the offender to penalties not amounting to £50, with a power to the Justices to mitigate the penalties, whilst the same Act directed that all penalties which amount to £50 or more shall be sued for in His Majesty's Courts at Westminster; it was held, that by necessary implication the courts above were ousted of their jurisdiction in the case of penalties not amounting to £50. Now, in this case the Legislature has enacted, that disputes of the description of the present shall be

"referred—words which in their natural force denote an obligation, not a permission only; and unless these words are construed to be compulsory on the plaintiff, they mean nothing. If they are not compulsory on the plaintiff, neither can they be so upon any principle of fair construction upon the defendant. And if recourse to arbitration is not intended, except both parties choose to adopt it, then, indeed, the Act is made a dead letter, for it would be competent for both parties to refer the dispute to arbitration, if they both agreed upon it, without the intervention of the Statute. In order, therefore, to give these words of the Statute any force or operation, the word 'shall' must be construed as obligatory; that is, that the matter in dispute shall of necessity be referred to arbitration, and not be determined in any of the Courts of Westminster Hall. But, looking at the object and intention of the Legislature, we think it clear that their remedy by action is taken away, and that by arbitration substituted in its place."—*Judgment of Lord Chief Justice TINDAL in Crisp v. Bunbury* (1832, 8 Bingham, 394.)

"Upon a rule for a *mandamus* to the Judge of the County Court to proceed with this action, which was brought by a Member of a Building Society, within the provisions of the 6 & 7 Wm. 4, c. 32, against an Officer of the Society, it was contended, that by section 4 of that Statute, incorporating the provisions of the 10 Geo. 4, c. 56, ss. 27, 28, 29, and by the 25th Rule of the Society, directing a reference of all disputes to Justices of the Peace, the right to bring the action was taken away; and I am of opinion that this is so. By those sections, provision is directed to be made by the Rules, specifying whether disputes shall be referred to Justices or to arbitration; and the decision upon such reference is made final. Those sections and this rule, providing for a cheap, simple, and speedy decision, oust the jurisdiction of the ordinary tribunals (*Crisp v. Bunbury* [see above], *Timms v. Williams*, 1842, 3 Q. B., 413) In *Cutbill v. Kingdom*, 1847 (1 Exch., 494), the action was held maintainable, because the rule there relating to reference did not comprise the matter of that action; but by the exception the rule was recognized. The 9 & 10 Vict., c. 95, s. 58, does not operate to take away the effect of these statutes from County Courts, or revive a power of bringing actions there, which had been taken away from all courts generally. The rule must, therefore, be discharged."—ERLE, J., in *ex parte Payne* (5 Dowling & Lowndes, 679), 1849.

13.—Is it competent for a Friendly [or Building] Society to make a rule, providing that a Member requiring a reference to arbitration must deposit a sum of money to abide the result?

Sir W. BOVILL, when Solicitor-General, was of opinion that it is, and that there is no legal restriction as to the amount which might be required to be deposited. (See Report of Registrar of Friendly Societies, 1866, p. 30.) But the learned Judge of the Wolverhampton County Court, A. M. SKINNER, Esq., Q.C., in a case before him (unreported, but kindly communicated to us by himself), decided to act, notwithstanding such a rule, on the ground that it operated as a denial of justice to a poor member.

14.—*What are to be referred to Arbitration.*

All disputes, connected solely with the affairs of the Society, arising between it and any Member, or person claiming on account of a Member, as Member. [10 Geo. 4, c. 59, s. 27.]

15.—*What are not disputes referable to Arbitration.*

See ACTION, SOLICITOR.

The Executor (*Kelsall v. Tyler*, 1856, 11 Exch. 530, per Pollock, C.B.) or

Administrator (*Knox v. Shepherd*, 1860, 2 L.T., N.S., 351 Q.B.) of a Member are not claimants, "on his account" within the meaning of the Act. See also *Smith v. Lloyd*, 1859, 26 Beav. 507.

### 16.—*Proceedings in Arbitration.*

The Rules are to specify the number of Arbitrators, and the mode of Ballot, by which those to act in each case of dispute are to be chosen.

They must be not less than four in number (at least three to act in every case of dispute), and should be elected at the first Meeting of the Society.

If elected at some subsequent Meeting, the election would still be valid:—for this part of the provision is directory, and not imperative, as it contains "mere matter of direction, and nothing more."—*Taunton, J.*, in *Pearse v. Morrice*, 1834 (2 A. & E., 96.)

"There is a known distinction between circumstances which are of the essence of a thing required to be done by an Act of Parliament and clauses merely directory. The precise time in many cases is not of the essence."—*LORD MANSFIELD*, in *Rex v. Loadale* (1 Burrow, 447), 1758.

The 54 Geo. 3, c. 84, enacted that the Michaelmas Quarter Sessions shall be holden in the week next after the 11th of October. Held that this was directory, and that they might legally be holden at another time.—*The King v. Leicester* (7 B. C., 12.)

By a Local Act constituting a Dock Company, it was enacted, that the Minutes of the Proceedings of the Meetings of the Directors should be signed by the Chairman at each respective Meeting. Held, that signature at a subsequent Meeting after the minutes had been read and confirmed, was a sufficient compliance.—*Southampton Dock Company v. Richards* (1 Scott N. R., 219), 1840; *London and Brighton Railway Company v. Fairclough* (5 Scott N. R., 68), 1841; *West London Railway Company v. Bernard* (3 Q. B., 873), 1843; *Miles v. Bough* (3 Q. B., 845), 1843; Dwarries on Statutes, 2nd Ed., 1848, p. 606, *et seq.*; Thompson on Building Societies.

In case of death, or refusal or neglect to act, the Society or General Committee are to elect new arbitrators in the place of those ceasing to be so, at their next Meeting.

Arbitrators must not be interested in the funds of the Society.

If the Society do not, within forty days after an application by a Member for reference to arbitration, comply with such application, or if the Arbitrators neglect or refuse to make an award, the Trustees or other Officers of the Society, against whom complaint is made, may be summoned before two Justices, who may determine the matter at issue.—(10 Geo. 4, c. 56, s. 27.)

Notice of an appointment by Arbitrators, for the purpose of proceeding with a reference, must be properly served, and not merely addressed to the Member, by post, according to the last entry on the register.—*Hilton v. Hill*, 1863, 9 L. T., N. S., 383.

## AWARD.

17.—The Award of Arbitrators must be in the following form:—  
[See Schedule, 10 Geo. 4, c. 56.]



"We, the major part of the Arbitrators, duly appointed by the.....  
 Society, established at.....in the county of.....  
 Do hereby Award and Order, That A. B. [specifying by name the party or  
 the Officer of the Society] do, on the.....day of.....  
 pay to C. D. the sum of.....[or, we do hereby  
 reinstate in, or expel, A. B. from the said Society, as the case may be.]

Dated this.....day of.....One thousand  
 eight hundred and.....

E. F.  
 G. H."

18.—When made according to the true purport and meaning of the Rules, it is binding on all parties, final and without appeal, either to Courts of Law or Equity, and may be enforced by proceedings before Justices.—(10 Geo. 4, c. 56, s. 27.)

19.—A Court of Equity has no jurisdiction to alter the Award, unless there be error upon the face of it, or it be shown to have been corruptly made.

*Armitage v. Walker*, 1855, 2 Kay and J. 211.

20.—If the Arbitrators neglect their duty, as by refusing to hear evidence on both sides of the question, the Justices have jurisdiction, as that is tantamount to a refusal of the Award.

*Reg. v. Grant*, 1849, 14 Q.B. 43, 13 Jur. 1026 19, L. J. M. Cases, 59.

21.—The Arbitrators may decline to hear counsel.

*In re Macqueen*, 1861, 9 C. B. N. S. 793.

22.—The Arbitrators (in a Building Society) cannot award costs.

*Armitage v. Walker* (see above)

*Kelsall v. Tyler*, 1856, 11 Exch. 537.

## BONUS. [See also REDEMPTION.]

23.—Bonus from a Member for receiving a Share in advance may be taken by the Society, at any rate of interest.

Even before the Usury Laws were repealed, Building Societies were specially exempted from their operation, by the 6 & 7 Wm. 4, c. 32, s. 2.—*Carr v. Johnson*, Ct. of Exch., Nisi Prius, June, 1848; see also *Burbridge v. Cotton*, 1851, 5 De Gex and S. 17.

## BORROWING MONEY.

24.—Borrowing Money on behalf of the Society.

"I am of opinion, that a Rule authorising the raising of money for the purposes of a Society would be repugnant to the fundamental principles of the Society,

and that it cannot be certified as a Rule in conformity to Law and with the provisions of the Statute.”—LORD WESTBURY, when Attorney-General, 6 July, 1857.

## CERTIFICATE.

25.—The course of proceeding necessary to be adopted to obtain the Enrolment of the Rules of an intended Society is as follows :—

Two copies of the Rules, written (or printed) on paper or parchment, signed by three Members and the Clerk or Secretary, must be sent (with the fee of one guinea) to the Barrister appointed to certify Rules of Savings Banks, for the purpose of ascertaining whether the Rules are calculated to carry into effect the intention of the parties framing them, and are in conformity with law, and with the provisions of the Statutes in force relating to such societies; and the Barrister is to advise (if required) with the Clerk or Secretary of the Society to be formed, and give a certificate on each of the said copies, that the same are in conformity to law and to the provisions of the Statutes in force relating to such societies, or point out in what part or parts the said Rules are repugnant thereto. The Barrister is to return one of the copies to the Society, and transmit the other to the Clerk of the Peace for the county in which the Society is formed; and the Rules may be legally acted upon from the time when the same are certified by the Barrister.—(4 & 5 Wm. 4, c. 40, s. 4.)

26.—The Certificate refers back to the formation of the Society; thus, a Mortgage taken by the Society before Certificate does not require a stamp.

*Williams v. Hayward*, 1855, 22 Beav., 220, 1 Jur. N. S., 1128, 25 L. J., Ch., 289.

27.—The Certificate is conclusive as to the validity of new or altered Rules, even though the Rule of the Society as to the manner of making new Rules has not in fact been complied with.

*Dewhurst v. Clarkson*, 1854, 3 Ell. and Bl., 194. As the Certifying Barrister, however, has no power to ascertain whether the affidavit on which he granted the Certificate is true or not, this decision gives some opening to fraud, and the doctrine would probably be departed from if any case of obvious error were to arise. Erle, J. dissented from the decision of the Court.

## COMMITTEE.

28.—The Rules must specify the number, powers, and duties of the Committee of Management, who must be Members.—(10 Geo. 4, c. 56, ss. 10, 12.)

## COPYHOLDS.

29.—By the words “freehold or leasehold property,” and “dwelling-houses or other real estate,” inserted in the introductory part of the Building Societies’ Act, it follows that copyhold property, which is comprehended in the term “real estate,” may be acquired and

enfranchised through the instrumentality of Benefit Building Societies. See Art. 69, OBJECTS. We recommend our readers to examine the plan which we have devised for the Enfranchisement and Improvement of Copyhold and Church Leasehold Property, by the formation of Copyhold Enfranchisement Societies, registered under the Building Societies' Act.—(See *Scratchley on Copyholds*.)

## COURT.

30.—The County Court has no jurisdiction where the Rules provide for a reference to two Justices of the Peace.

*Exparte Payne*, 1849, 5 Dowling & Lowndes, 679, 18 L. J. Q. B., 197.

31.—The Courts have no jurisdiction under the Act in an Enrolled Society which has ceased to act upon its certified Rules.

*Exparte Norrish*, 1821, Jacob, 162; *Reg. v. Lord Godolphin*, 1838, 8 A. & E., 338.

## DEATH.

32.—If the Trustees of the Society, upon the Death of any Member intestate, have paid or divided any sum of money to or amongst any person or persons who appear to them to be entitled to his effects, such payment is valid as against any person claiming as next of kin or legal representative of the Intestate: but the next of kin or representative has a remedy against the person or persons receiving the money.—(10 Geo. 4, c. 56, s. 23.)

They may pay any sum not exceeding £20 without Will or Letters of Administration.—(s. 24.)

## DEFICIENCY.

33.—In a Terminating Society, if the Funds are insufficient to pay out the Investing Members, both Borrowers and Investors must continue their Subscriptions till the unadvanced Shares realise their full amount. Nevertheless, the Borrowers are entitled to have their Mortgage Deeds delivered up to them as soon as the period of termination, on which the Society was supposed to be based, has expired.

*Sparrow v. Farmer*, 1859, 26 Beav. 511, 23 L. J. Ch., 537; 5 Jur. N. S. 530; *Farmer v. Smith*, 1859 (4 H. & N., 196).

A Member of a Society whose Rules provided that, upon payment by a borrowing Member of a sum to be ascertained as therein set forth, his Shares should be wholly extinguished, had assigned his mortgage, and the assignee had paid the redemption price. The Society, nevertheless, demanded and received from the Member the contributions required for meeting the deficiency which arose at the period for terminating. It was held that he could not recover these payments against the assignee of his mortgage. *Priestley v. Hopwood*, 1864 10 L. T., N. S., 646 Q.B. As to this case, see the remarks of Mr. Barry, in his Treatise on the Law of Building Societies.



## DEFINITIONS.

34.—The following Definitions of a Building Society are given by the Act of 1836 :—

- 1.—(*Preamble*) A Society established, “principally among the industrious classes, for the purpose of raising, by small periodical subscriptions, a fund to assist the Members thereof in obtaining a small freehold or leasehold property.”
- 2.—(*Sect. 1*) A Society, which may consist of “any number of persons, for the purpose of raising, by the monthly or other subscriptions of the several Members, Shares not exceeding the value of one hundred and fifty pounds for each Share, such subscriptions not to exceed in the whole twenty shillings *per* month for each Share, a stock or fund for the purpose of enabling each Member thereof to receive out of the funds of such Society the amount or value of his or her Share or Shares therein, to erect or purchase one or more dwelling house or dwelling houses, or other real or leasehold estate to be secured by way of mortgage to such Society, until the amount or value of his or her Shares shall have been fully repaid to such Society with the interest thereon, and all fines or other payments incurred in respect thereof.”

## DISSOLUTION.

35.—By 10 Geo. 4, c. 56, s. 26, it is provided, that a Friendly Society cannot be dissolved without the consent of five-sixths in value of its members, and that any person concerned in a division or misappropriation of the funds, without such consent, is liable to penalties; but it is doubtful whether this section is one of those “applicable to Building Societies,” and several have in consequence been wound up under the Companies’ Act, 1862.

## FINES.

36.—A General Meeting may inflict reasonable Fines, Penalties, and Forfeitures, upon Members offending against the Rules. The Rules are to direct how the fines are to be applied. (6 & 7 Wm. 4, c. 32, s. 1.)

37.—Non-fulfilment of the covenant in a Mortgage Deed for payment of Fines, is not a dispute referable to Arbitration; but Fines accruing on unadvanced Shares are subject to Arbitration.

*Cutbill v. Kingdom*, 1857, 1 Exch. 494, 17 L. J. Exch. 177. *Knox et al. v. Shepherd*, 1860, 2 L. T. N. S. 351, Q. B.

## FORFEITURE.

38.—A rule forfeiting unadvanced Shares, in the event of non-payment of Subscriptions for a given period, is not unreasonable, nor contrary to law.

Per Williams, J., in *Card v. Carr*, 1856, 1 C. B. N. S. 197; 26 L. J. 113, C. P. In this case the two Directors in attendance on a subscription night inadvertently received money on a share which had been forfeited by non-payment, and the Board afterwards repudiated it, and returned the money. By the rules five Directors were a quorum. The Court held, that the forfeiture had not been waived.

## FORMS.

39.—Forms of Conveyance, Mortgage, Transfer, Agreement, Bond, or other instrument, may be set forth in a Schedule to the Rules. (6 & 7 Wm. 4, c. 32, s. 3.)

## FREEHOLD LAND SOCIETIES.

40.—Building Societies have no power to purchase land, except out of the Surplus Funds, where authorized by the Rules, and the Directors cannot contract Debts on behalf of the Society for the payment of the purchase-money.

*Grimes v. Harrison*, 1859, 26 Beav. 435, 33 L. T. 115, Ch. *Mullock v. Jenkins*, 1851, 14 Beav. 628, 21 L. J., 65 Ch.

41.—Purchase of land by Members on behalf of the Society, where the Rules do not authorize it, is an individual speculation of the persons purchasing, and they cannot sustain a claim for contribution to the purchase-money from the other Members.

*Re Kent Benefit Building Society*, 1861, 1 Drewry and Smale 417; 30 L. J., 785 Ch.; 4 L. T. N. S. 610; 7 Jur. N. S. 1045.

42.—A Building Society can recover Subscriptions due from its Members, even though it acts illegally as a Freehold Land Society.

*Reg. v. D'Eyncourt*, 1864, 4 B. & S. 820; 10 Jur. 513; 12 W. R. 408.

43.—Allottees of land should be careful to see that the title of the Society's Trustees to the land is complete. If it be defective, the original vendors may enforce contributions to the purchase-money from the several allottees.

*Peto v. Hammond*, 1861, (29 Beav. 91, 30 Beav. 495, 31 L. J., Ch. 354) was a case where land had been bought on behalf of a Building Society, acting as a Freehold Land Society, but the whole of the price not having been paid, the Vendors had a lien on the conveyance for the unpaid portion. Meanwhile, the Society proceeded to allot the land among its members. It was held that the Vendors, in a suit to recover the balance due, must join the whole of the allottees as defendants, and that the allottees were all liable to contribute to payment of it.

44.—Allottees should be careful into what covenants' they enter ; and Trustees should see that all necessary restrictions are duly provided for in the several mortgage deeds.

*Eastwood v. Levers*, 1863, 9 L. T. N. S. 615 ; 33 L. J., Ch. 355.

45.—Allottees of land, even though let into possession, have no estate in it until the purchase-money has been paid by the Society and the property conveyed to the Members.

*Reg. v. Inhabitants of Carlton*, 1849, 14 Q. B. N.S. 110 ; 13 L. T. 505.

## FRIENDLY SOCIETIES.

46.—The provisions of the old Friendly Societies' Acts (10 Geo. 4, c. 56, and the 4th and 5th Wm. 4, c. 40) apply to Building Societies, so far as they can be made applicable. As regards Friendly Societies they have been repealed.

## INTEREST.

47.—No interest or dividend, by way of profit on the Shares, can be received by any Member from the Society, until his Shares are realised, except upon withdrawal. (B. S. Act, sect. 1.)

## INVESTMENT.

48.—The uses and purposes to which the Funds are to be applied, and the manner in which the Society is to give its consent to the laying out and disposing of the Surplus Funds, must be set forth in the Rules. (10 Geo. 4, c. 56, s. 13.)

49.—The Funds are not authorised to be invested in any Savings Bank, nor with the National Debt Commissioners. (B. S. Act, s. 6.)

50.—The Surplus Funds may be invested in purchase of real estate, if the Rules so provide.

*Mullock v. Jenkins*, 1851, 14 Beav. 628 ; 21 L. J. Ch. 65 ; *Grimes v. Harrison*, 1859, 26 Beav. 435 ; 28 L. J. Ch. 823 ; 5 Jur. N. S. 528.

## JOINT MEMBERSHIP.

51.—“ It is inconsistent with the object which the Legislature contemplated (which was to assist individuals), that persons



combining together and forming a Joint Stock Company, should ever be capable of being members of a Benefit Building Society."

Sir L. Shadwell, V.C., in *Dobinson v. Hawkes*, 1848, 16 Sim. 437; 12 Jur. 1037.

52.—Two or more persons may jointly become Members.

This has never been judicially decided, though *Walker v. Giles*, 1848, arose on a mortgage granted to two members as joint holders of certain shares. 6 C. B. 662; 18 L. J., C. B. 323.

## JURISDICTION.

53.—In questions involving the relation of mortgagee and mortgagor between the Society and the Member, the Courts of Law and Equity have jurisdiction, notwithstanding a reference of disputes to Arbitration may have been provided for in the Rules. (*See ACTION.*)

4 & 5 Wm. 4, c. 40, s. 7; per Erle, J. in *R. v. Trafford*, 1854, 4 E. & B. 122; 24 L. J., M. C. 20; *Cutbill v. Kingdom*, 1847, 1 Ex. 494; *Fleming v. Self*, 1854, 3 De Gex. M. & G. 997, 24 L. J. Chan. 29.

See also ARBITRATION and COURT.

## LUNACY.

54.—The Rules should contain a provision for the case of Members becoming lunatic, as there is nothing in the Acts of Parliament which meets it.

## MINORS.

55.—With the consent of his parents, masters, or guardians, a Minor might become a Member of a Friendly Society, execute instruments, give acquittances, and possess the privileges and responsibilities of a Member of full age, by the 10 Geo. 4, c. 56, s. 32; but it is doubtful whether this section is one of those "applicable to Building Societies."

## MORTGAGE [*See REDEMPTION*].

56.—Care should be taken that the Mortgage Deed is consistent with the Rules of the Society. See Art. 98, RULES.

*Mosley v. Baker*, 1848, 6 Hare 87.

57.—The Mortgage should be given to the Treasurer or Trustee for the use and benefit of the Society. (10 Geo. 4., c. 56, s. 21).

58.—After death or removal of any Treasurer or Trustee, the Mortgage vests in his successor without any conveyance or assignment whatever.

*Walker v. Giles*, 1848, 6 C.B. 662, 18 L. J. C. P. 323, 13 L. T. 209.

59.—The removed Trustee need not be asked to execute any assignment, and would be entitled to his costs of appearance against the Society if made a party to a suit for appointing another trustee to convey.

*Third Burnt Tree Building Society*, 1848, 16 Sim. 296; 12 L. T. 3, 12 Jur. 595.

60.—A Mortgage taken before the Rules have been certified and deposited is exempt from Stamp Duty, provided those formalities are complied with before action is brought; for the certificate refers back to the formation of the Society.

*Williams v. Hayward*, 1855, 22 Beav. 220.

61.—Advances may be made, and Securities taken, upon houses or property neither built nor purchased with the Mortgage money.

*Cutbill v. Kingdom*, 1847, 1 Exch. 494; *Morrison v. Glover*, 1849, 4 Exch. 430; 19 L.J., Exch. 20.

62.—Does a Mortgage create the relation of Landlord and Tenant between the Borrower and the Society?

“The object and general contents of the Deed are inconsistent with the intention of creating the relation of Landlord and Tenant as stated in the concluding part of the Deed.” *Wilde, C.J. in Walker v. Giles*, 1848, 6 C. B. 662.

“In any view of the case it would be merely a tenancy at will.”—*Crompton, J., in Turner v. Barnes*, 1862, 2 Best and Smith, 435: 9 Jur. N.S. 199. [See TENANCY.]

63.—The Mortgage Deed is often drawn in the form of a mere Conveyance upon trust for sale, and in *Scewitzer v. Mayhew*, 1862, 31 Beav. 37, an Order for Foreclosure was refused in consequence: but as the remedies by sale or collection of rents are better suited to the circumstances of Building Societies, this is not of great importance.

64.—An action may be maintained for breach of the covenant to repay, notwithstanding that the Directors have their remedy by Sale [or collection of rents]. See Art. 5, ACTION.

65.—In a Terminating Society, the obligation to pay subscriptions, if required, beyond the expected term subsists, though the security may have been vacated by Redemption.

*Farmer v. Smith*, 1859, 4 H. & N. 196, 28 L. J. 226, Ex. *Handley v. Farmer*, 1861, 29 Beav. 362.

66.—The form of Receipt to be given by the Trustees on satisfaction of a mortgage must be set forth in a Schedule to the Rules, and will vacate the Mortgage without a reconveyance. (6 & 7 Wm. 4, c. 32. s. 5.)

*Stamers v. Preston*, 1859, 9 Ir. C. L. 351. But the costs of a reconveyance by Deed, made to obtain registration at the Middlesex Registry Office, were allowed on taxation. In *re Page* (1863) 32. Beav. 485.

67.—Property was mortgaged to a Building Society, and afterwards to A. Mortgagor borrowed money from B to pay the Society, and then executed a Mortgage to B. The legal Estate vested in A.

*Prosser v. Rice*, 1859, 28 Beav. 68.

## OBJECTS.

68.—The objects of the Society must be set forth in the Rules. (10 Geo. 4, c. 56, sec. 3.)

69.—One of the objects may be the making advances upon Copyhold Property.

In *Smith v. Baker*, 1737, 1 Atk. 385; and in *Doe dem. Clarke v. Ludlam*, 1831, 7 Bing. 275, the words "real estate" in a will were held to include Copyholds. See also *Coombes v. Gibson*, 1783, 1 Brown's Ch. Cas. 273; and *Scriven on Copyholds*, 236.

70.—May include the purchase of land by means of the surplus funds.

"There is nothing in the Act of Parliament to prevent the Society from purchasing from its members the fee simple of an Estate." Parke, B. in *Cutbill v. Kingdom*, 1847, 1 Exch. 494.

71.—May not include advances to Members upon personal security alone or mere deposit of their shares.

In *Reg. v. Shortridge*, 1844, 1 Dowl. & L. 555, this was determined not to be an object within the Friendly Societies' Acts, and there is nothing in the Building Societies' Act to enable it.

## OFFICERS.

72.—The Officers are bound by the Rules, and (in the absence of a special contract for personal responsibility on the part of the Directors) can look only to the funds of the Society for payment. (10 Geo. 4, c. 56, s.8.)

*Alexander v. Worman*, 1860, 6 H. & N. 160, 30 L. J. Ex. 198.



B. Martin (delivering judgment of L.C.B. Pollock, B. Channell, and himself.)  
 "We think it a mistake to suppose that in Societies of this kind, the Surveyor, or Secretary, or other Officers do work and labour upon the same terms as professional men of their class ordinarily do. They generally have a much greater interest in them than the Directors, and in the great majority of cases are the individuals who get them up, and at whose request the Directors consent to accept the office and take upon themselves the liabilities and duties of their situation: and it is to me very clear that such Officers discharge duties and perform services with the understanding on all hands that they are to be remunerated out of the funds, and that if the funds fail, the Officers must remain unpaid."

73.—Should be appointed under the titles used by the Act—not "stewards" but "trustees," &c.

*Re the Heanor Friendly Society*, 1838, 1 Beav. 509.

74.—Change of Officers must be conducted strictly according to the Rules.

*Roberts v. Price*, 1847, 4 C. B. 231, was a case where, when the Rules provided that Officers should be removed by a Committee of 11, and notice of meeting was only given to 10, though the other had said that he could not attend, the proceedings were held to be void.

75.—In case of the Bankruptcy of an Officer of a Building Society, having monies in his possession by virtue of his office, the Society had a prior claim to be paid in full out of his estate by 4 & 5 Wm. 4, c. 40, s. 12:—but this is repealed in the B.L.C. Act, 1849, ss. 1, 167.

*Exparte Bailey*, 1854, 5 De Gex, M. & G. 380.

If in partnership with a third party, the priority was only against his separate estate, and not against the joint estate.

*Exparte Appach*, 1840, 1 Mont. D. & D. 83.

If the Treasurer had invested the funds of the Society on illegal and insufficient security, the Society was not deprived of its priority by reason of not having taken steps to set aside the transaction, or to realize the security before the Bankruptcy.

*Exparte Burge*, 1841, 1 Mont. D. & D. 540.

If a Clerk of the Society had received money without authority, and on its being claimed from him as a debt, had given security, the Society lost its priority.

*Exparte Buckland*, 1818, 1 Buck. 214.

If the Society had deposited money with its Treasurer, and received a promissory note or bond from him, payable with interest on demand, the Society had no priority.

*Exparte Stamford Friendly Society*, 1808, 15 Ves. 280; *Exparte Ashley*, and *Exparte Corser*, 1801, 6 Ves. 441; *The Amicable Society of Lancaster*, 1801, 6 Ves. 98; *Exparte Ross*, 1802, 6 Ves. 802.

76.—The Officers are not personally liable to make good deficiencies in the Funds, unless by registered writing they take such liability

upon themselves, when they may limit it. They are personally liable for all money they receive and for deficiency caused by their own misconduct or breach of trust. (10 Geo. 4, c. 56, s. 22.)

## PLACE OF MEETING.

77.—The Place of Meeting must be set forth in the Rules. If it be altered, notice in writing, signed by the Secretary and three Members, must be given to the Clerk of the Peace for the county within seven days before or after the removal. The Place of Meeting cannot be removed into another county. (10 Geo. 4, c. 56, s. 10.)

## PROCEEDINGS.

78.—In criminal proceedings, property of the Society may be described as property of the Treasurer or Trustee. (10 Geo. 4, c. 56, s. 21.)

79.—If the owner of the house, from which a box belonging to the Society is stolen, is one of the persons entitled to have a key of that box, though not actually having such key, the property may be laid in him.

*R. v. Wymer*, 1830, 4 Carrington and Payne, 391.

80.—If the Person stealing be a Trustee, the property may be laid in the Treasurer, and *vice versa*.

*Reg. v. Cain*, 1841, Carrington and Marshman, 309.

81.—In a civil action it is sufficient to declare that the parties are Trustees for the time being, and plead as such.

*Morrison v. Glover*, 1849, 4 Exch. 430, 19 L.J., 20 Ex.

82.—To a Bill in equity demanding a dissolution of a Society, even if all the Members be not made parties, at least each class must be represented: thus, a bill was held to be defective for want of parties when the Members not under notice of withdrawal were not included in it.

*Harmer v. Gooding*, 1849, 3 De Gex & Smale 407, 13 Jur. 400.

## PROMISSORY NOTE.

83.—Promissory Notes can only be given on the personal responsibility of the Members signing them. *See* TRUSTEES.

84.—A Secretary who signs a Promissory Note as Secretary, in the place where signatures are usually put, and not opposite, as a mere countersignature, may be made personally liable.

*P. Bramwell, B, in Bottomley v. Fisher*, 1862, 1 H. & C. 211, 31 L. J., 417, Ex., 6 L. T. N. S. 688.

85.—The Trustees signing a Promissory Note, may set off against a claim under it any sums due to the Society by the lenders.

*Ex parte Clennell*, 1861, 4 L. T. N. S. 60, Bankr.

## PROPERTY.

[*See* PROCEEDINGS.]

## REDEMPTION [*See* MORTGAGE].

86.—If the Society lend to non-Members (as to a Joint Stock Company), the borrowers are entitled to redeem upon terms of an account, charging the Loan with interest, and crediting the payments made.

*Dobinson v. Hawks*, 1848, 16 Sim. 407, 12 Jur. 1037, 12 L. T. 238.

87.—In a terminating Society, a Member proposing to redeem must pay up the equivalent of all future payments till each unadvanced Shareholder has realized his share.

*Mosley v. Baker*, 1848, 6 Hare 87; on appeal, 1849, 1 Hall & Twells, 301. 3 De Gex M. & G. 1032. *Seagrave v. Pope*, 1853, 1 De Gex M. & G. 783

88.—In *Fleming v. Self*, 1854, 3 De Gex M. & G. 997, 1 Jur. N. S. 25; and in *Smith v. Pilkington*, 1859, 1 De Gex F. & J. 120; 29 L. J. Ch. 227; a borrower redeeming was held entitled to be credited with the amount of Bonus payable at the time to withdrawing Members. “His Honour (Sir W. P. Wood) stated various calculations to



show that the mode adopted of finding profits would lead to total insolvency, and read passages from SCRATCHLEY on BUILDING SOCIETIES, showing that the only way of ascertaining profits was by an annual account of debts and liabilities, receipts and payments; and then said he arrived at last at the conclusion that the Society would not be bound by the resolution of the Directors that eleven years should be the time at which the Society was to terminate."—23 L. T. 63, 1 Kay 519. In forgetfulness of this decision, the Trustees of a Building Society declared a Bonus on the unadvanced Shares only; but a borrowing Member was held entitled to such Bonus, notwithstanding that it had been erroneously calculated.

*Archer v. Harrison*, 1857, 7 De Gex M. & G. 404.

## REGISTER OF MEMBERS.

89.—The Register of Members should be carefully kept up.

*Dobinson v. Hawks*, 1848, 16 Sim 407, 12 Jur. 1037. "To support the Defendant's view of the case, it must be made to appear that the Plaintiffs were members of the Building Society. The primary evidence, the evidence which the Legislature intended to exist of that fact, is not forthcoming. By the Rules of the Benefit Society, it is directed that the name of each member shall be inserted in a book, and that book would, of necessity, be either in the actual possession of the Defendants or under their control. My opinion is that the nonproduction of it, under the circumstances that appear in this case, must be taken to be conclusive evidence that the Plaintiffs were not members of the Building Society." V. C. Sir L. Shadwell.

## REGISTRATION [See CERTIFICATE].

## RULES.

90.—The Rules must be entered in a book to be kept by an Officer of the Society appointed for the purpose; the book must be open at all seasonable times for the inspection of the Members. A fair transcript of the Rules must be deposited with the Clerk of the Peace. When certified, they are binding on all Members and on every one connected with the Society, but not on strangers. (6 & 7 Wm. 4, c. 32, s. 1; 10 Geo. 4, c. 56, s. 8.)

*Bottomley v. Fisher*, 1862, 1 H. & C. 211. In *Stammers v. Preston*, 1859, 9 Ir. Com. Law R. 351, it was held that the transcript should be deposited with the Registrar, under 9 & 10 Vict., c. 27; but the decision was bad, for that Act does not apply to Building Societies. See Art. 3, Act.

91.—The Rules must be proper and wholesome, agreed upon by the majority of the Members, and not repugnant to the Building Societies' Act or the general Laws of the Realm. (6 & 7 Wm. 4, c. 32. s. 1.)

92.—The entry of the Rules in the Book, or the transcript deposited with the Clerk of the Peace, or an examined and proved copy of such transcript, are evidence of the Rules in all cases. (10 Geo. 4, c. 56, s. 8.)

But the whole of the copy must be examined and proved, and not a particular Rule only.

*Reg. v. Boynes*, 1843, 1 Car. & Kir. 65.

93.—The printed book, bearing the Certifying Barrister's Signature, is sufficient, without proving the Enrolment at the Sessions.

*Walker v. Giles*, 1848, 18 L. J. C. P. 323, 6 C. B. 662.

94.—A Rule, forfeiting Shares after 6 months' neglect to pay, is not unreasonable.

*Card v. Carr*, 1856, 1 C. B. N. S. 197, 26 L. J. C. P. 113.

95.—Nor a Rule inflicting a fine of one shilling in the pound per month on borrowers in arrear of mortgage repayments.

*Parker v. Butcher*, in Chancery, 1866 (not yet reported).

96.—The Rules should set forth the method of investment of the surplus Funds. [See INVESTMENT.]

97.—A Rule for Arbitration does not oust the jurisdiction of the Courts of Chancery in the case of a Member who has given notice of withdrawal, and files a Bill to recover the amount due on his share. (See ARBITRATION.)

*Smith v. Lloyd*, 1859, 26. Beav. 507.

98.—Care should be taken that the Rules and the Mortgage Deeds are consistent.

"If the construction of the Mortgage Deed is free from ambiguity, its effects cannot be controlled by any ambiguous expressions in the Rules." Wigram, V.C., in *Mosley v. Baker*, 1848, 6 Hare 87, confirmed by the Lord Chancellor, 1849, 1 Hall & Twells 301, 3 De Gex M. & G. 1032.

99.—A Rule providing how “summonses, circulars, and notices” should be sent relates only to the ordinary business of the Society, and not to proceedings in arbitration.

*Hilton v. Hill*, 1863, 9 L. T. N. S. 383.

## SECRETARY.

100.—The Secretary should be called upon to execute a bond. (10 Geo. 4, c. 56, s. 11.)

101.—He should take care how he signs promissory notes on behalf of the Society.

*Bottomley v. Fisher*, 1862, 1 H. & C. 211, was a case where the Secretary was held personally liable on a promissory note signed (not countersigned) by him as Secretary. See Art. 84.

102.—Orders for necessary repairs given by the Secretary may bind the Society, though not sanctioned by the Trustees (or Committee, as the case may be,) nor entered on the Minutes.

*Allard v. Bourne*, 1863, 15 C. B. N. S. 468.

## SHARES. [See JOINT MEMBERSHIP.]

103.—The Shares must not exceed £150 in amount, and the subscription must not exceed in the whole 20s. per month for each share. (6 & 7 Wm. 4, c. 32, s. 1.)

104.—A Member may hold any number of Shares.

*Morrison v. Glover*, 1849, 4 Exch. 430, 19 L. J. Ex. 20. This point was raised, but no decision given, in *Cutbill v. Kingdom*, 1847, 1 Exch. 497; 17 L. J. Ex. 177.

## SOCIETIES

Established before June, 1836. [See ACT.]

## SOLICITOR.

105.—A Rule of the Society ordering reference to Arbitration is not a bar to an action at law by the Solicitor for his costs.

*Kill v. Hollister*, 1746, 1 Wils. 129; *Thompson v. Charnock*, 1799, 8 T. R. 139.



106.—Mere negligence on the part of the Solicitor, except when his labour has been wholly useless, is no defence to an action for his costs.

*Templar v. Mc Lachlan*, 1806, 2 Bosanquet and Puller's New R. 136.

107.—That through his negligence no benefit has been derived from his work and labour, and that he has shown a want of fair professional skill in the transaction, is a good defence.

*Huntley v. Bulwer*, 1839, 6 Bing. N. C. 111.

108.—A Solicitor cannot recover items incurred for useless work.

"No principle of law is more clearly established than this, that a party cannot enforce a charge for doing business which is useless to his employer."—C. J. Tindal in *Shaw v. Arden*, 1832, 9 Bing. 287.

109.—The Solicitor is liable to an action for damage sustained in consequence of his negligence.

*Russell v. Palmer*, 1767, 2 Wils. 325; but see *Pitt v. Yalden*, 1767, 4 Burr. 2060.

110.—He is not answerable for error in judgment upon new, difficult, or doubtful points.

*Godefroy v. Dalton*, 6 Bing. 460, 1830; *Elkington v. Holland*, 1842, 9 Meeson and Welsby, 659; 11 L. J. 274 Exch.

111.—He must fully examine the title to the property offered on mortgage to the Society, and not rely on a mere extract.

*Wilson v. Tucker*, 1822, 3 Starkie 154.

112.—He is bound not to draw wrong conclusions from the deeds submitted to him.

*Ireson v. Pearman*, 1825, 3 B. & C. 799.

113.—Should the Society sustain any loss through the inaptitude or carelessness of the Solicitor, he is bound to make good the deficiency.

A case was tried at the Liverpool Assizes in 1842, in which the Trustees of a Benefit Building Society recovered from the defendants, who were the Solicitors employed in preparing the mortgage deed to the Society, the sum of £1350 lent to a shareholder. The defendants had given a certificate to the Society of their approval of the title of the borrower to the property intended to be mortgaged, but they neglected to secure the assignment of an outstanding term. Subsequently the borrower effected a second mortgage with different parties, who got the outstanding term assigned to them, and so secured a priority over the first mortgagees. The Counsel for the Building Society stated, in his address to the jury, referring to the profession of a Solicitor, that "no profession was of more importance to society—none exercised a wider influence. Every man's property was at their mercy, and on their skill and integrity everyone relied."—See "*The Times*" newspaper, 12th April, 1842.

## STAMP DUTY.

114.—No Rules or copy of Rules, nor any transfer of shares, is liable to Stamp Duty. (B. S. Act, 1836, s. 8.)

115.—No power, warrant, or letter of attorney, &c., nor any bond or other security given to or on account of the Society, or by the Treasurer, Trustee, or any officer thereof, nor any draft or order, nor any form of assurance, nor any appointment of any agent, nor any certificate or other instrument for the revocation of any such appointment, nor any other instrument or document whatever, required or authorised to be given, issued, signed, made, or produced by virtue of the Act, is liable to Stamp Duty. (10 Geo. 4, c. 56, s. 37.)

116.—Mortgage securities given to a Building Society (whether by Members or strangers) are not liable to Stamp Duty.

*Walker v. Giles*, 1848, 6 C. B. 662; 18 L. J. C. P. 323; *Barnard v. Pilsworth*, 1849, 6 C. B., 698 n.; *Thorn v. Croft*, 1866, 36 L. J., Ch. 68.

117.—Stamp Duty is not chargeable upon securities, even when taken before the Rules are certified.

*Williams v. Hayward*, 1855, 22 Beav. 220; 25 L. J. Ch. 289. *Bradburne v. Whitbread*, 1843, 6 Sc. N. C. 283.

## SURPLUS FUNDS.

118.—Such funds as the exigencies of the Society do not call for the immediate application or expenditure of, may be invested either on real or heritable securities or heritable property, or in the public stocks, funds, or Government securities, or in any of the Chartered Banks of Scotland, or in the Commercial Bank of Scotland, but not otherwise. (10 Geo. 4, c. 56, s. 13.)

119.—A Society may lend its Surplus Funds on real security to persons not Members, and may lend Surplus Funds to Members on security of property already in their possession.

*Cutbill v. Kingdom*, 1847, 1 Ex. 494; 17 L. J. Ex. 177. *Morrison v. Glover*, 1859, 4 Exch. 430; 19 L. J. 20 Ex.

## SURVEYOR.

120.—The Surveyor is bound by the Rules, and has no remedy against individual Directors, if the Rules provide that he shall look to the Funds only for payment.

*Alexander v. Worman*, 1860, 6 H. & N. 100, 30 L. J. 198 Ex., 3 L. T. N S. 477.

121.—If the report of the Surveyor be grossly incorrect, and the Society sustains loss, he is not entitled to recover anything for the work and labour done, and is liable to an action for damages.

*Money Penny v. Hartland*, 1824, 1 Car. & P. 352.

## TENANCY.

122.—There is some doubt as to the effect of a Tenancy clause in a mortgage deed.

In *Walker v. Giles*, 1848, 6 C. B. 662, (per Wilde, C. J.) it was held that, "The object and general contents of a mortgage deed are inconsistent with the intention of creating the relation of Landlord and Tenant." But that decision has called forth some animadversion; and in more recent cases (*Pinhorn v. Souster*, 1853, 8 Exch. 763; *Brown v. Metropolitan Counties Assurance*, 1859, 4 H. & N. 428, 1 El. & El. 832) a tenancy has been held to have been created.

"The tenancy clause in a mortgage deed creates a rent, with all its incident remedies." *Keech v. Hall*, 19 Geo. 3, 1 Smith L. C. 5th Ed. 505.; *Jolly v. Arbuthnot*, 1859, (re Col. Waugh) 4 De Gex & Jones 224.

It does not create such a tenancy as would give the County Courts jurisdiction under the 122nd section of the County Courts' Act, 9 & 10 Vict., c. 95. *Jones v. Owen*, 1848, 18 L. J. Q. B. 8. But in *Third British Building Society v. Barrett*, 1849, 14 L. T. 259, Mr. Serjeant Jones, Judge of the Islington County Court, gave possession to the Trustees of a Building Society under the tenancy clause.

"The utmost effect which can be given to the clause is to create a tenancy at will."—Blackburn, J., in *Turner v. Barnes*, 1862, 2 Best & Smith 435; *Doe d. Bastow v. Cox*, 1847, 11 Q. B. 122, 17 L. J. Q. B. 3.

An action of debt, for use and occupation, would lie. *Standen v. Christmas*, 1847, 10 Q. B. 135; *Barnard v. Pilsworth*, 1849, 6 C. B. 698a.

## TRANSFER OF SHARES.

123.—A Building Society may prescribe a form of Transfer in its Rules. (6 & 7 Wm. 4, c. 32, s. 3).

124.—Transfers are exempt from Stamp Duty. (6 & 7 Wm. 4, c. 32, s. 8.)



**TREASURER.**

125.—The Rules should provide that the Treasurer shall give security. (10 Geo. 4, c. 56, s. 11.)

126.—He may be called upon at any time to render accounts and to pay over at the next usual Meeting of the Society or Committee the balance of funds in his hands. (s. 14.)

127.—The Property of the Society is vested in him or the Trustees. He may bring or defend actions and suits, when authorized by the Society. (s. 21.)

128.—He is not liable to make good any deficiency, unless he has agreed in writing to be so, and then he may limit the extent of his liability. (s. 22.)

129.—Priority of claim on his estate in case of death or bankruptcy was given to Building Societies, by 4 & 5 Wm. 4, c. 40, s. 12, but see OFFICERS.

130.—He is not liable in case of Robbery.

*Walker v. British Guarantee Assurance*, 1852, 18 Q. B. 277.

**TRUSTEES.**

131.—As to Trustees, see 10 Geo. 4, c. 56, s. 11.

132.—All property and rights or claims of the Society are vested in the Treasurer or Trustees for the time being. (s. 21.)

133.—If a person holding property of a Society as a Trustee (not being one of the Trustees of the Society) is out of jurisdiction, a lunatic, not to be found, or refuses to convey, the Court of Chancery may appoint a person to convey in his stead, (s. 15.) The property of the Society in the hands of other persons does not vest in the Trustees by their mere appointment.

*Dewhurst v. Clarkson*, 1854. 3 Ell. & Bl. 194.

134.—The property of the Society vests in the duly appointed successor of a Trustee without conveyance.

*Walker v. Giles*, 1848, 6 C. B. 662, 18 L. J. C. P. 323, 13 D. T. 209.

135.—Even though the original security did not express the trust.

*Cartridge v. Griffiths*, 1817, 1 B. & Ald. 57.

136.—“In my opinion, if the money is paid to the Trustees, it must be to the whole of them. I am not aware of the difference in law between a Trustee and an acting Trustee. In order to avoid the liability, the money should be paid to the Treasurer, who should give security.”—*From a statement of the Certifying Barrister, Mr. TIDD PRATT.*

137.—“I am of opinion, that no personal responsibility can attach to any Trustee or Director of a Benefit Building Society, except so far as relates to money they actually receive, and in that case there can be no such responsibility if the money is paid over or applied according to the Rules. See 10 Geo. 4, c. 56, s. 22. They cannot, therefore, be held personally responsible in the event of the Society not proving successful, or in the event of the mortgage property proving a loss to the Society, and any of the subscribed funds being lost thereby.”—*From a statement of the Certifying Barrister, Mr. TIDD PRATT.*

138.—Any Member signing a promissory note may be made personally liable, even though he write after his name some word, as “Trustee.”—A plea that the note was given on behalf of the Society is bad.

*Price v. Taylor*, 1860, 2 L. T. N. S. 221, 5 H. & N. 540.

139.—The Trustees, acting only ministerially, are not liable, although the Directors, at whose request they act, may be guilty of a breach of trust.

*Grimes v. Harrison*, 1859, 26 Beav. 435, 28 L. J. Ch. 823, 5 Jur. N. S. 528.

140.—The Trustees cannot maintain an action until the Rules under which they are appointed are certified.

*Batley v. Townrow*, 1814, 4 Campbell 5.

141.—Upon the legal establishment of a Society, they may call for a transfer to them of the Funds previously belonging to the Society.

*Yeates v. Roberts*, 1855, 3 Drewry 171; confirmed on appeal, 7 De Gex. M. & G. 227; *Hodges v. Wale*, 1853, 2 W. R. 65.

## VOTING FOR COUNTIES.

142.—The right to vote is not conferred upon a Borrower from a Building Society, unless the annual value of the land mortgaged exceeds the annual payments to the Society by 40 shillings.

*Beamish app. Stoke resp.*, 1851, 11 C. B. 29, 21 L. J. C. P. 9; *Copland app. Bartlett resp.*, 1848, 6 C. B. 18, 13 Jur. 127.

## WINDING-UP.

143.—A Building Society is within the Winding-up clauses of the Companies' Act, 1862.

Several Building Societies are in course of winding-up by the Court of Chancery. The first case of the kind was *Re St. George's Benefit Building Society*, 1857, 3 Jur. N. S. 682, 29 L. T. 310, 27 L. J. Ch. 96, 4 Drewry 154, under the old Winding-up Acts.

144.—A Building Society cannot, for the purpose of being wound-up in the County Court, be registered as an Industrial and Provident Society.

In *Re Midland Counties' Society*, 1864, 10 Jur. N. S. 505, the M. R. rejected a petition to wind-up a Society in his own Court, on the ground that this course might be taken: but his decision was overruled by the Lords Justices, 1865, 11 Jur. N. S. 229.

## WITHDRAWAL.

145.—Members may withdraw. (6 & 7 Wm. 4, c. 32, s. 1.)

146.—A Member, who has given notice to withdraw, may file a Bill in Chancery to ascertain and recover the amount due to him.

*Smith v. Lloyd*, 1859, 26 Beav. 507.

147.—If the amount due has been settled by arbitration, the Court will not enquire whether the amount awarded is correct according to the Rules.

*Armitage v. Walker*, 1855, 2 Kay and J. 224.

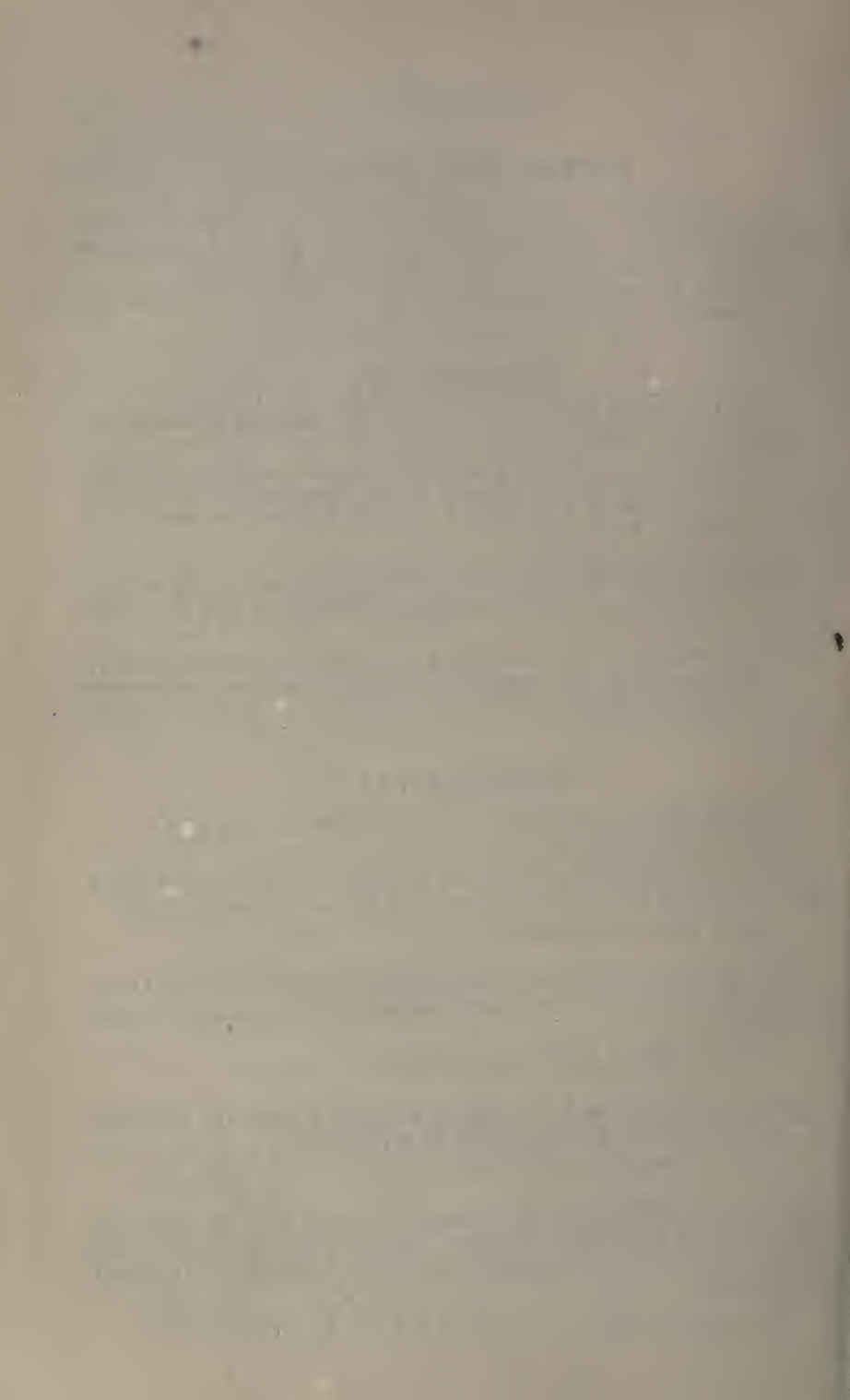
148.—A question, as to priority of payment among the Members withdrawing, should be determined by arbitration.

*Wright v. Deeley*, 1866, 4 H. & C. 209.

149.—In winding-up, a Member, who has given due notice of withdrawal, is not a contributory; but he is a creditor for the amount due to him, including the compound interest (if any) allowed by the Rules.

*Re Doncaster Building Society*, 1866, 14 L. T. N. S. 13 (before Wood, V.C.)





MODEL RULES FOR A PERMANENT  
BENEFIT BUILDING SOCIETY,  
ON MUTUAL PRINCIPLES.

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# RULES

FOR A

## PERMANENT

## BENEFIT BUILDING SOCIETY.

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### CONSTITUTION OF THE SOCIETY.

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#### I.—NAME AND PLACE OF BUSINESS.

THIS Society shall be called the “ Permanent Benefit Building Society,” and is established in conformity with the provisions, and under the authority and sanction, of the Act of Parliament 6 and 7 William IV., cap. 32. The general business thereof shall be held and conducted at \_\_\_\_\_ in the county of \_\_\_\_\_, or at such other place in the said county as the Directors from time to time appoint.

#### II.—OBJECTS.

The objects of this Society are to raise a Fund to enable any member to obtain interest on the subscriptions payable by him on unadvanced shares; or to receive an advance in full of his share or shares therein, for the purpose of erecting or purchasing a dwelling-house or houses, or other real or leasehold estate in any part of \_\_\_\_\_; and to lend the amount or value of a share or shares to members, on the security of real or leasehold estate, and generally for the purposes allowed by the Act 6 & 7 William IV., c. 32.

[As to this Rule, see Remarks in Treatise, page 83.]

### III.—SUBSCRIPTION MEETINGS.

1.—The first Subscription Meeting of this Society shall be held on the      day of      , 18      , at the office of      , and a Subscription Meeting of the Society shall be held on the      in every month at the same place, or at such other place as the Directors from time to time appoint.

2.—Such Subscription Meetings shall commence at      o'clock precisely in the evening, and shall terminate at      , unless any special matter shall arise, in which case the Chairman may extend the time.

### IV.—ANNUAL MEETINGS.

1.—The Annual Meeting of the Society shall be held in the month of      in every year, at such time and place as the Board of Directors appoint. One week's notice, signed by the Secretary, shall be given to each member, by circular, previous to the Meeting.

2.—At every Annual Meeting of the Society a general Report, signed by three Directors and the Secretary, showing the transactions of the Society during the past year, its present condition and the state of its affairs generally, and the Auditors' Report and balance-sheet, shall be read to the Society, and the books and accounts, and the statement of accounts, audited and approved by the Auditors, shall be produced for the inspection of the members. A copy of such statement shall be supplied to every member on payment of one penny. At the Annual Meetings, also, new Directors and Auditors shall be elected by ballot in the place of those who retire from office, and other vacant offices (if any) be filled up; and the present state and future prospects of the Society may be discussed, and such other business transacted as may be deemed proper and expedient.

*[The Annual Meeting should be fixed at such a time as would allow two or three months for the preparation and auditing of the year's accounts.]*

### V.—DIRECTORS' MEETINGS.

1.—The Directors shall meet as often as necessary, at such place and time as they determine upon, for the purpose of conducting the business of the Society.

2.—Three elected Directors shall constitute a quorum, except when the funds of the Society are advanced to Borrowers, when a quorum of five must be present.

3.—The Chairman, Deputy-Chairman, any two of the Directors, or the Secretary, may call a Meeting of the Directors at any time upon giving two clear days' notice in writing. In case the requisite number of Directors do not attend, the Secretary may adjourn the meeting to some other time.

## VI.—SPECIAL GENERAL MEETINGS.

1.—A Special General Meeting of the members shall be summoned by the Secretary whenever the Directors require him so to do, or upon his receiving a requisition in writing, signed by not less than seven members of the Society, stating the objects for which such meeting is required.

2.—The members, subscribing such requisition, shall deposit with the Secretary such a sum as shall be deemed sufficient to pay the expenses of the meeting; and the members present at such meeting shall decide whether the said expenses shall be paid out of the funds of the Society, or out of the sum so deposited as aforesaid.

3.—Every Special General Meeting shall be summoned by circular posted seven clear days prior to the day appointed for the meeting, and such circular shall state the objects for which the meeting is to be held.

4.—In the event of the Secretary neglecting to summon a Special General Meeting in manner aforesaid, he shall be fined one pound; and in case of such neglect, the Chairman, Deputy-Chairman, or any two Directors, or the members signing the requisition, may summon such Special General Meeting by circular in manner aforesaid.

5.—No other business shall be transacted at any Special General Meeting than that stated in the circular by which such meeting is summoned.

## VII.—ADJOURNMENT OF MEETINGS.

Any meeting of the members or of the Directors may, by a resolution duly carried, be adjourned or removed from one time or place to another, or any number of other times or places; and every meeting by adjournment or removal, shall be deemed a continuation of the original meeting.

## VIII.—NOTICES.

1.—All general Notices to members (except where otherwise directed by these Rules) shall from time to time be affixed on some conspicuous place in the subscription room for the time being; and, unless when the Directors think it necessary, or these Rules require, that circulars should be sent to each member of the Society, all notices so affixed shall be considered sufficient and duly served.

2.—In no case shall the proceedings of any meeting, whether of the Directors or members, be void or voidable merely on account of the omission to give, or of any defect in, the notice required by these Rules, unless an objection on such ground be taken previously to entering on the business of the meeting.



## IX.—VOTING.

Every question submitted to any meeting of the Directors or members, shall be decided by the votes of the majority of those present entitled to vote. Such votes shall be first taken by show of hands, upon which the decision of the Chairman of such meeting shall be final, unless a scrutiny be demanded, in which case it shall be forthwith taken by ballot; and then every member qualified to vote, whose subscriptions are not in arrear, shall have one vote, [or, one vote for every                      shares held by him, provided that no member shall have more than                      votes in the whole,] and in either case if there be an equality of votes, the Chairman shall give the casting vote in addition to his vote as a member. No member shall be entitled to attend any meeting of the Society, or to vote on any question, without producing his certificate of shares if required so to do by any of the Directors, nor until he has been three months a member of the Society, and has duly paid his subscriptions for that period. No member or officer of this Society shall be allowed to attend during the discussion of, or to vote on, any question affecting his individual interest or conduct.

## X.—ARBITRATION.

1.—At the first meeting of the Society five Arbitrators shall be appointed, none of them being interested in the funds of the Society. In case of dispute, the names of the Arbitrators shall be written on pieces of paper, and placed out of view in a box; and the three whose names are first drawn out by the complaining party, or by some one appointed by him, shall be the Arbitrators to decide the matter in difference, and their decision shall be final.

2.—Every member requiring a reference to arbitration shall deposit with the Society one pound sterling, and sign an undertaking to abide the result of the reference. The Arbitrators may direct the expenses of the reference, or any part thereof, to be paid by such member.

3.—If any Arbitrator die, resign the office, or refuse or become incapable to act, the Society at its next meeting shall appoint another in his place.

XI.—ALTERATION, ADDITION, AND CONSTRUCTION  
OF RULES.

1.—None of the Rules of this Society shall be repealed, altered, or added to, unless at a Special General Meeting of the members convened for the purpose, pursuant to Rule VI. The circular convening the meeting shall contain the exact alterations and additions proposed, and no repeal, alteration, or addition shall be made but with the concurrence of three-fourths of the members present at the Special General Meeting. Any amendments relating to the particular rule to be altered or added to, may be proposed; but no rule not mentioned in such requisition, shall be in any respect altered or repealed, except so far as the same may relate to the subject matter of any rule so mentioned in the requisition. All alterations in, or additions to these Rules, shall be duly enrolled and certified.

2.—In the construction of these Rules, the word “Share” shall apply as well to a fraction of a share as to a whole share; the word “Month” shall be held to be a calendar month; the word “Year” shall mean the Society’s year, and every such year shall be taken to expire with the day of ; the word “Board,” or “Directors,” shall mean the Board of Directors for the time being. The term “re-payment subscription” shall be held to mean the sums or subscriptions periodically paid by members in discharge of their advanced shares; and whenever any word importing the singular number or the masculine gender only, is used, it shall be held to include and apply to the plural number or feminine gender, as the case may be, and *vice versa*, unless there be something in the subject or context repugnant to such construction.

3.—If any question or dispute arise on the construction or meaning of any of the Rules of the Society, such question or dispute shall be referred to the Solicitors of the Society, whose decision shall be final, except reference is made to arbitration; and such decision shall be put into writing, and deposited with the Secretary if required by the Directors.

## XII.—EXPENSE AND CONTINGENT FUND.

1.—Every member, whose shares are not fully realized or paid up without discount, shall pay quarterly, in addition to his subscription on unadvanced or advanced shares, the sum of per share, as a contribution towards a separate fund to be called “The Expense and Contingent Fund.” In case of non-payment, the same may be charged upon the first subsequent payments of the member becoming due for his subscriptions on his shares, and deducted from the same, or treated if not paid as subscriptions in arrear. Where a member pays up the whole, or any portion of his shares in advance, and receives discount thereon, the expense of quarterage for the whole of the time which it would ordinarily take to pay up his share in full, shall still be payable, and if not paid treated as subscriptions in arrear, and as such be liable to the fines set forth in Rule XLIII.

2.—All fines, contributions, and fees whatsoever mentioned in these Rules, except remuneration fees payable to the officers, shall be passed to the Expense and Contingent Fund; and so also shall a deduction at £ per cent. per annum, from the amount of income derived from the repayment subscriptions of advanced shares.

[As to the principle upon which this and similar deductions should be regulated, see the *Mathematical Appendix.*]

3.—The general expenses of management and of periodical valuations and estimates, and any losses that may be incurred by the Society, shall be defrayed out of the Expense and Contingent Fund; but if such expenses and losses be greater than the amount of such Expense and Contingent Fund, the excess shall be borne rateably per cent. by the holders of unadvanced shares not realized, in proportion to the number of years the same shall have been in force; and by those members who have paid up the whole or part of their shares in advance, and received discount thereon; but not by those members who have paid up the whole of their shares without receiving dis-

count, nor by those who voluntarily leave their realized shares as a deposit in the Society's hands, and receive interest for the use thereof, pursuant to Rule XXVIII. The rate of contribution per share shall be settled by the Consulting Actuary, so that each share may be debited with the same, but the payment thereof may be deferred until the withdrawal or realisation of the share.

4.—At the end of the first three years, and every subsequent three years, valuations and estimates of the liabilities and assets of the Society, and of the Expense and Contingent Fund shall be made by the Consulting Actuary ; and if, after all losses and expenses shall have been satisfied, any surplus profit remain, arising from excess of assets over liabilities, the same shall be appropriated thus :—

to a Permanent Guarantee Fund, to meet future contingencies ; and the remaining among the holders of all unadvanced shares which are not yet realized nor in arrear for subscriptions and fines, in proportion to the number and amount of the shares they hold, and to the number of years such shares respectively have been in force ; such bonus shall be paid when the shares are fully realized. No portion of the bonus shall be paid to unadvanced shareholders withdrawing previously to the realization of their shares, unless the withdrawal be compulsory, pursuant to Rule XXIX.

[*As to mutuality, and as to periods of valuation, see Treatise, page 37. See also Rule XXXII.*]

5.—After the Society has been nine years in existence, the members at a special General Meeting summoned for the purpose, with the advice of the Consulting Actuary, may alter the above proportion in the division of surplus profits ; and increase or diminish the amount of the Permanent Guarantee Fund.

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## MEMBERS.

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### XIII.—ADMISSION OF MEMBERS.

1.—Members may be admitted into this Society at any time, on making application to the Directors in the form (A) annexed to these Rules.

2.—Every member, at the time of entering into the Society, shall be furnished with a pass-book, containing a copy of these Rules, (for which he shall pay                   ), in which book his account with the Society shall, at the termination of every year, be made up by the Secretary.



#### XIV.—LOST PASS BOOK.

1.—Any person losing his pass book will be supplied with another containing a copy of his account, on payment of a fine of \_\_\_\_\_ over and above the cost of the book.

2.—If any person other than the member to whom it belongs shall produce any pass book, and represent himself to be the member therein named, and shall thereupon withdraw or receive any money in respect of the account contained in the pass book, neither the Society nor any of its officers shall be held responsible for the same, unless notice in writing of the loss of the pass book shall have previously been given to the Secretary.

#### XV.—PASS BOOKS TO BE LEFT FOR AUDIT.

Each member shall leave his pass book at the offices of the Society or of one of its agents, on or before the \_\_\_\_\_ day of \_\_\_\_\_ in each year, for the purpose of examination by the Auditors, or in default thereof shall be fined \_\_\_\_\_. There shall be delivered to him a receipt for his book, which he shall return on applying for the same at the Annual Meeting.

#### XVI.—QUALIFICATIONS OF MEMBERS.

1.—The holder of a share or part of a share (unadvanced or advanced), shall be deemed a member of this Society.

2.—At any time within \_\_\_\_\_ after the payment of the entrance fee by any person, the Directors may decline admitting or continuing such person as a member; and notice thereof shall be given in writing to such person, and the entrance fee, and any other payment made to the Society by him, shall be returned or tendered to him by the Secretary. Upon such notice being given, and payment or tender made to such person, he shall cease to be a member of the Society, and the Secretary shall strike out his name from the register book of members.

3.—All shares on which the entrance fee only shall have been paid, shall be forfeited on the \_\_\_\_\_ monthly subscription meeting next after such shares shall have been taken.

#### XVII.—REGISTERS OF MEMBERS, SHARES, &c.

1.—A register shall be kept, in which shall be entered the Christian and Surname, occupation and place of abode, of every member of the Society; and as often as any member shall change his place of abode, he shall within \_\_\_\_\_ give notice thereof to the Secretary, or forfeit \_\_\_\_\_ for neglect. On such notice being given, the alteration shall be entered in the register by the Secretary; and all notices by circular shall be deemed duly given by the Secretary by putting the same in the Post Office, at \_\_\_\_\_, addressed to the member according to the last entry on the register.

2.—A register of every member of the Society shall be also kept, in which shall be entered the number and numerical order of the shares held by him, the date of entry, transfer, or cancelling of the same, and any other details deemed necessary.

#### XVIII.—MEMBERS MAY INSPECT BOOKS.

Any member may inspect his account in the Society's books during the time the books are open for the receipt of subscriptions, and any member may have a copy of his account on applying to the Secretary, after days' previous notice in writing for that purpose, and the payment of .

#### XIX.—MARRIAGE OF FEMALE MEMBERS.

Any female member who may marry, shall give notice in writing thereof to the Secretary, and of the Christian and Surname, place of abode, and profession or business of her husband; and thereupon the shares of such female member shall be duly transferred into the name of her husband. Upon such transfer, the same fees and fines shall be payable as in other cases of transfer of shares. In case such notice as aforesaid shall not be given within one month after the marriage, a fine of                      per share shall be paid by such member to the Society, and a further fine of                      per share for every additional month which shall elapse before the shares are duly transferred to the husband.

#### XX.—BANKRUPTCY OF A MEMBER.

On any member becoming bankrupt, or making an assignment for the benefit of his creditors, or having any judgment or execution against his estate and effects, or if his shares, or any of them, shall be charged in favour of any person, by or through a Judge's order, or otherwise, the Assignee, Execution Creditor, or person obtaining such charge, shall not by reason thereof become a member of the Society, but shall be at liberty to sell or transfer the share or shares, or interest of such member to any other person duly admitted a member of the Society. Such shares shall, nevertheless, be subject to all the rules and regulations of the Society, to which they would have been liable in the hands of the member holding the same.

#### XXI.—LUNACY OF A MEMBER.

1.—In the event of any member becoming lunatic or of unsound mind no fines shall during such lunacy or unsoundness of mind, be payable for arrears of subscription, or otherwise, on any share or shares he may hold, but the Committee or Guardian of such afflicted member, legally appointed, shall be entitled to withdraw the amount payable to such member in the manner prescribed in the Rule for withdrawals.

2.—In case no Guardian or Committee shall be legally appointed, it shall

be lawful for the Board to direct payment of the amount to which such member would have been entitled on withdrawal from the Society, to the person having the care of such member, at the expiration of three months after a request in writing, signed by such person, shall have been left with the Secretary, upon evidence satisfactory to the Directors of the lunacy or unsoundness of mind of the member being given, and upon such person giving such indemnity against all claims in respect of such shares, as the Directors shall think fit to require for the security of the Society.

3.—In case the afflicted member shall have received an advance of shares, the Committee or Guardian having the care of such member, may dispose of the mortgaged property, or redeem the mortgage, and exercise any other privileges pertaining to the shares; and in such case the transfer or redemption fee chargeable by the Society under these Rules shall be reduced one-half; provided nevertheless that, on application being made by the Secretary in writing to some relative or interested friend of the afflicted member to see to the due payment of his subscriptions and other payments, the full amount of all fees and fines that may thereafter become due according to these Rules may be enforced, and the Directors may then take the ordinary steps for the recovery of all arrear payments whatsoever, which may be then due in respect of the shares or mortgaged property of the afflicted member, and if requisite may proceed to a sale of such mortgaged property.

## XXII.—DEATH OF A MEMBER.

1.—Upon the death of any member of the Society holding shares, upon which no advance shall have been made, his legal personal representative shall, within one month afterwards, give notice thereof in writing to the Secretary, stating the Christian and surname, place of abode, and profession or business of such personal representative, or of any other person or persons entitled to the shares of such deceased member, or in default thereof, shall pay a fine of                      and upon such notice being given, the shares of such deceased member shall be transferred into the name of such personal representative or other person or persons, and the same fees shall be payable upon such transfer as upon any other transfer of shares. In case such shares, or any of them, shall not be transferred as aforesaid, at or before the third monthly subscription meeting next after the death of such member, a fine of                      shall be paid to the Society for every monthly subscription meeting which shall elapse before such transfer shall have been made.

2.—When the shares of the deceased member are transferred into the names of more than one person, the eldest in age only shall be entitled to vote.

3.—If no probate of will or letters of administration be produced to the Directors at any meeting within three months after the decease of any member, the Directors shall be at liberty, at or after the fourth monthly subscription meeting after such decease, to pay or distribute the subscriptions



paid by the said member to his widow or children, or next of kin, with any interest which may have been added thereto, pursuant to these Rules, provided the amount do not exceed £20; subject however to the same conditions as affect members giving notice of withdrawal, or as the Directors for the security of the Society may think proper to require from the parties receiving the money.

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## SHARES AND SUBSCRIPTIONS.

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### XXIII.—UNADVANCED SHARES.

#### ULTIMATE VALUE.

1.—The unadvanced shares shall be of the ultimate value of £        each, realizable by a monthly payment of        in a period of        years, and a month in a period of        years, and also of such other amounts, and realizable in such periods of years, and in consideration of such single or periodic payments or subscriptions as the Directors from time to time deem fit.

[*As to this Rule, see Treatise, p. 9.*]

2.—Each member shall pay an entrance fee of        per cent. on the amount of his shares at the date of his subscribing for the same, and the subscription per share fixed by the Board for and during the full term or terms in which the same shall be realizable.

### XXIV.—RECEIPT OF SUBSCRIPTIONS.

All subscriptions for unadvanced shares, repayment subscriptions, fines, and other monies whatsoever, becoming due and payable to the Society, shall be received only at the usual subscription meetings. All monies so received at such subscription meetings shall be paid to the Bankers of the Society for the time being; and a book containing the Banker's entries of money so paid, or the Banker's receipt in lieu thereof, shall be produced at the next meeting of the Directors, to be initialed by the chairman, as duly examined.

## XXV. CERTIFICATE OF SHARES.

Each member upon subscribing for a share or shares, shall be entitled to a Certificate of such shares, specifying the number and amount thereof respectively, signed by three Directors, and countersigned by the Secretary, which certificate shall be evidence of his title thereto.

## XXVI.—PAYMENTS IN ADVANCE.

The Directors may allow interest by way of discount, on subscriptions paid in advance for any period not less than twelve months, at such rate (not exceeding      per cent.) as they deem fit.

[As to this Rule, see Art. 93, p. 54.]

## XXVII.—TRANSFER OF UNADVANCED SHARES.

Any member may transfer his unadvanced shares to any person approved by the Board, or to any existing member of the Society, on payment to the Society of all arrears, fines, and other payments then due, and of per share as a transfer fee. No transfer shall be valid unless made in the form (B.) annexed to these rules, and a proper record of all transfers shall be made in a book to be kept for that purpose by the Secretary.

## XXVIII.—WITHDRAWAL OF UNADVANCED SHARES.

1.—Any member may withdraw his unadvanced shares on giving one month's notice, in writing, of his intention so to do to the Secretary at any subscription meeting of the Society, and leaving his passbook at the Society's offices.

2.—The Board shall have full power, from time to time, to limit the number of shares that may be *advanced* in one month; but all prior applications for an advance shall have priority over notices of withdrawal.

3.—In case any share is withdrawn on which the member has been allowed interest for payments in advance, the Directors shall deduct a proportionate part of such interest for the time not already expired (if any) in respect of which interest was allowed.

4.—Part of a share may be withdrawn, and the remainder continue in force, entitled to the same privileges, and subject to the same conditions as the original share; in which case a new certificate for the reduced amount (bearing profits from the original date of the whole share) shall be issued. In like manner a part of a share may be transferred, and the remainder be retained by the original member. Such withdrawal or transfer shall be subject, however, to the consent of the Board, and to any regulations they may make from time to time in respect thereto.

5.—The following fees shall be paid upon the withdrawal of unadvanced shares, viz.:—                    in the pound if the share be withdrawn during the first year after it shall have been issued, and                    in the pound if withdrawn during any subsequent year.

*[The amount of the withdrawal fee should be determined by the special circumstances of the locality.]*

6.—Shares to be withdrawn (not wholly subscribed for) shall be paid out in rotation according to the order of the applicants on a list kept by the Secretary for that purpose; or if the Directors should, from the number of applications for withdrawal, think it desirable, then in such manner that each member may receive an equal proportion of his subscriptions paid in, so that all such members may be simultaneously accommodated with a portion of their shares. In case the expenses of the Society, and any loss sustained by it, exceed the monies appropriated to the management and contingent fund, all withdrawn shares shall be chargeable with a due proportion (measured by number and amount) of such excess, according to the number of years such shares shall have been in force; and this rule shall equally apply to members cancelling their unadvanced shares previously to their taking a loan from the Society.

7.—In case of the death or insanity of a member before receiving an advance, and upon application of the wife, widow, or representatives of such member, she or they shall be entitled to a preference before ordinary members.

8.—Next after payment out of withdrawn shares of deceased and lunatic members, the persons holding unadvanced shares realized by payment in full or by subscription for the term selected, shall have the preference, and shall, unless the Directors decide otherwise, be paid out in rotation, according to the times at which the shares become realized, subject, however, to the aforesaid deduction for excess of expenses or losses (if any); and from the date of the realization, until such payment, interest payable annually at a rate not exceeding five per cent. per annum shall be allowed to such members, on the amounts respectively due to them.

9.—Subject to the provisions aforesaid, the sums payable on withdrawn shares, realizable in                    years (upon which all subscriptions and fines shall have been duly paid), shall be according to the following table: and where a member voluntarily withdraws his shares in the course of a year, the sum set down in the tables at the close of the year previous shall be payable, with interest thereon, and also any monthly subscriptions subsequently paid; and so in proportion for a fractional part of a share.

*(Here insert Withdrawal Tables.)*

The amount to be payable on the withdrawal of shares, realizable in other periods of years (if any), shall be determined from time to time by the Consulting Actuary.

*[A very good principle to adopt in the construction of Withdrawal Tables is that of an increasing rate of compound interest, so that members may have an inducement to abstain from withdrawing in the prospect of an increasing advantage by remaining members.]*



10.—In every case of a member withdrawing from the Society, all fees and fines due by him shall be deducted from the amount which he would otherwise be entitled to receive.

11.—Shares in course of withdrawal shall be subject to such other conditions, payments, deductions, and regulations as the Directors determine, having reference to the capital, means, liabilities, and general state of the affairs and funds of the Society, and the Directors may reduce or absolutely waive the payment of the withdrawal fees provided for by clause 5 of this Rule, or may suspend the requiring payment of such withdrawal fees for any period they think expedient.

## XXIX.—SURPLUS FUNDS.

1.—In case a larger amount of money shall be at any time unappropriated and not applied for to meet advances or other claims than the Board consider advisable, the Directors shall, after giving notice of at least fourteen days prior to a monthly meeting, have power to cause the same to be taken by the investing members (not under notice of withdrawal, nor having received an advance), and the sums then so declared by the Executive Committee to be taken in single shares shall be at once wholly withdrawn, or be taken by such members to whom the same may be advanced upon the security of mortgages in the usual way.

2.—In case the member shall not attend to receive the same, and to give such acknowledgment of his share being paid off as the Board may require, no further interest shall be allowed on the amount standing to his credit in the books of the Society.

3.—In balloting for compulsory withdrawals each share shall be drawn separately, and no member holding more than one share shall be liable to compulsory withdrawal of more than one, till every other member has withdrawn one, and in like manner if further compulsory withdrawals be necessary.

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## ADVANCED SHARES.

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## XXX.—ADVANCES OF MONEY.

1.—Whenever the money in hand is, in the opinion of the Directors, sufficient for the purpose, it shall be employed in advancing the shares of those members whose subscriptions are not in arrear, and the order in which

members become entitled to advances, shall from time to time be determined by sale, the biddings to be by ticket, and the highest bidder to be entitled to the advance. Such sale shall take place at eight o'clock in the evening to the exclusion of all other business. In case there be no biddings for the space of fifteen minutes, the members shall be entitled to an advance without premium in the order of their applying for the same; and all money not so employed shall be invested in such manner and upon such legal security as the Board direct.

2.—The payment of the premium or premiums which a purchaser shall give for his share or shares, shall be secured to the Society by the mortgage deed, and be made in five years, by equal monthly instalments, to commence from the date of the purchase, and the purchaser shall be liable to the same fines and forfeitures for non-payment of such instalments as are provided by Rule XLIII, in case of the non-payment of monthly repayment subscriptions.

3.—The advances shall be for terms from        to        years, repayable by monthly or quarterly contributions, covering principal and interest, at the rates hereafter specified, or at such other rates as the Board, acting under the advice of the Consulting Actuary, from time to time direct.

*(Here insert the Repayment Table.)*

4.—Any member not being in arrear for subscriptions or fines, (and having made payment during at least three months on his shares,) shall be eligible to bid or apply for an advance, not exceeding the realizable amount of his shares. Every application must be made in writing to the Secretary in the form (C) appended to these Rules, stating the amount desired. Every member applying for an advance shall receive notice of all subsequent meetings for advance of money, until declared entitled to an award.

5.—No member will be allowed to receive an advance of shares exceeding the number he has previously subscribed for, unless he pay down the entrance fees, and continue to pay half the subscriptions on the whole number of shares required, from the date of his being placed on the list.

6.—Every member entitled to an advance shall pay to the Secretary a sufficient deposit to cover the Solicitor's and Surveyor's fees, in the event of the title or value of the property proving insufficient or inadequate as a security; or of his otherwise failing to complete the same.

7.—Every member entitled to an advance shall, within one month from the date of notice forwarded to him through the Post Office, find a good and sufficient security by way of mortgage for the same, and in case of failure he shall be allowed a further period of one month to complete the same, provided he pay interest on the advance, at the rate of        per cent. per annum, to commence with the second month so allowed him, at the end of which time his right to such advance shall be forfeited to the next member then on the list, unless he consent to make his repayments in respect of his awarded advance from that date.

8.—Every member entitled to an advance shall furnish duplicate particulars of the property proposed as security, on a form to be given him by the Secretary; and the security being accepted by the Directors, who shall have been previously satisfied by the Surveyor and Solicitor of the sufficiency of the security offered, and all other preliminaries being arranged, the money agreed to be advanced shall be paid over to the member. In case the money is applied to the purchase of land, and afterwards to erect buildings thereon, the advance shall be made in such instalments as the Surveyor shall advise the Board of Directors.

9.—No money shall be advanced by way of a second mortgage, unless the prior mortgage be to the Society.

10.—If any member be desirous of ascertaining the amount which the Directors would be willing to advance on any proposed security, in the event of his entitling himself to receive such advance, he shall give written notice to the Secretary, and deposit with him the Surveyor's fee, and the Surveyor shall thereupon make his report to the Directors, if required by them, and the Directors shall announce to the member the amount they consider proper to be advanced on the property proposed as security.

11.—When a loan is required for twelve years, not more than three-fourths of the value of the mortgaged property shall be advanced thereon, nor more than two-thirds of its value, when the loan is taken for any longer period.

*[For shorter periods it will be for the Directors, on the advice of the Surveyor and Solicitor, to decide what proportion of the value of the property shall be lent. They should bear in mind that the risk of subsequent deterioration in the value of a security increases with the length of the period of the mortgage.]*

12.—Any member obtaining an advance from the Society may continue to hold his unadvanced shares or cancel the same, in which latter case the amount due to him under the Rule for withdrawals shall be returned to him in cash.

### XXXI.—EXPENSES OF SURVEY, MORTGAGES, &c.

The expenses of inquiry into title and of every survey, valuation, mortgage, and supervision by the Surveyor of the Society, of any buildings erected upon property previously mortgaged to the Society, and all expenses connected with the security, shall be borne by the member applying for or receiving the advance. The expenses of the mortgage (excepting the cost of stamps, registration, and other moneys paid out of pocket at the time by the Solicitor or Surveyor) may be repaid by an additional and proportional monthly subscription, extending over a period not exceeding calendar months. In case of default the amount due from time to time shall be chargeable on the mortgaged property, and be treated as repayment subscriptions in arrear.



## XXXII.—COMMISSION.

1.—A commission after the following scale shall be deducted from all advances made to members and be appropriated to the Expense and Contingent Fund. In consideration of the aforesaid commission, a borrowing member shall not be called upon to contribute, after the date of the advance, in respect of the shares upon which he has borrowed, any other sums towards expenses or contingencies, excepting the quarterage, fines, transfer, and other fees and payments mentioned in these rules.

*[Here insert Scale of Commission.]*

*[The rate of Commission that should be charged is a matter for practical consideration, and varies with the circumstances of the locality, The principles upon which it should be regulated are set forth in the Mathematical Appendix, pages 29 to 33.]*

2.—If, after the first and subsequent divisions of profits, it should appear to the Directors that the expenses or losses that the Society has incurred anterior to such division of profits, or which in their estimation are likely to arise upon the mortgages then in force, have not absorbed the whole of the commission contributed by borrowers upon advances made to them, then the Directors, with the advice of the Consulting Actuary, may credit the borrowing members in proportion to the number of shares which shall have been advanced to them respectively (in diminution of their future repayment subscriptions), with such a Bonus out of the unabsorbed commission above referred to, as shall not exceed the Bonus allotted to an unadvanced share of like standing.

*[This Rule, in point of fact, makes the Society a Mutual one.]*

3.—Should the Directors consider it expedient, at their own discretion in each particular case, the commission to be deducted as aforesaid may be allowed to stand over as a further charge upon the property mortgaged to the Society, and be treated as an additional advance, subject to the same rate of repayment as provided in the rule applicable to advances.

*[These clauses would have to be modified where the Bidding System is adopted.]*

## XXXIII.—ADVANCES TO PURCHASE AT AUCTION.

1.—Should any member, having become entitled to any advance as aforesaid, be desirous of purchasing property about to be sold by auction, and require the assistance of the Society to enable him to pay the deposit money payable at such sale, the Directors may, upon such member making his desire known to them, in the form (D.) annexed to these rules, order the Surveyor to report, and the Solicitor to investigate, the conditions of sale and the title of such property, so far as the same can be ascertained, upon payment of the usual fees; and may instruct the Secretary to attend such sale, and (provided such member can buy such property at a price not exceeding the sum of money the Directors are willing to advance on such property) to pay the amount of deposit at such sale, the balance of the purchase money to be advanced when the conveyance and mortgage are

completed ; provided that, if the member shall bid a larger sum than the sum awarded by the Directors, the difference between the sum awarded by them and the sum agreed to be given for the property, shall be deposited by the member in the hands of the Secretary, before any deposit is paid, and the Directors shall take such legal security for such sums paid on deposit as they may be advised.

2.—When any member shall be desirous of building, the Directors may from time to time make such advances during the progress of the building as they deem expedient, on having the amount secured on the property.

3.—If any member receiving an advance for the purpose of erecting or completing the erection of any buildings shall leave the same unfinished, and shall not proceed to complete the same after the expiration of seven days' notice in writing given to the member, his executors or administrators, by leaving the same upon the premises, the Trustees of the Society under the direction of the Committee, may complete the same ; and the Trustees may also with the sanction of the Committee, sell the premises mortgaged, either in their incomplete state, or upon the same being completed, as aforesaid, in which case all the powers, trusts, clauses, and provisions, contained in the mortgage deed to arise and take effect, and be exerciseable upon default being made in payment of any instalment, shall upon the expiration of such notice as aforesaid, arise, take effect, and be exerciseable in such and the same manner, and with the same consequences in all respects as if such default had really been made.

#### XXXIV.—AS TO MORTGAGES.

1.—Every member executing a mortgage to the Society, shall, within two days from the time of such execution, give to the Secretary a written statement of any trade carried on, in or about any part of the premises comprised in such mortgage, or of the existence of any stove or furnace erected thereon, or other matter or thing which would in any way affect the validity of the Policy of Insurance ; and if at any subsequent period any such trade shall be commenced, or erection made, the like statement shall be given, and the member neglecting to give such statement shall pay a fine, at the discretion of the Directors, of not more than ten shillings, but not less than one shilling per week for each share ; and the Directors shall, if they think fit so to do, at least once in each year, appoint some competent person to obtain all the information he can, with respect to trades, &c., carried on in or about the mortgaged premises, and to report to the Board accordingly.

Every borrowing member shall from time to time permit the Directors or such person or persons as they appoint, to inspect the mortgaged premises, and to obtain information with respect to any trade or trades carried on therein ; or pay such fine as the Directors shall think fit.

2.—The repayment subscription for advances shall be made at the end of the first calendar month, or of the first quarter (as may be agreed upon

by the Directors) next following the receipt of the advance, or any portion thereof, and shall continue to be so made for the full period for which the advance may have been originally taken, unless the mortgage be previously redeemed; and in all cases, such repayment subscriptions shall be due on the first day of each month, and be respectively made thereon if it be a day of meeting, or on the first subscription meeting thence ensuing.

3.—Every member obtaining an advance from the Society shall be bound by and subject to these rules, and any alteration or amendment thereof, although the intent or meaning of the same or any part of them may not be fully set forth, or may be omitted in the mortgage deed or other security, and no defect or omission in any mortgage or security shall be available by any member if such defect or omission shall be provided for by the rules of this Society.

4. Upon full payment being made of all the monthly repayment subscriptions, interest or other monies secured by any mortgage in accordance with these rules and the covenants therein contained, the Trustees shall, at the request in writing of the Directors, and under the advice of the Solicitor to the Society, deliver up to the member by whom such mortgage was effected, or to his legal or personal representatives, as the case may be, the title deeds and other documents which shall have been deposited with them by such member, and shall and will, free of all expense to such member, indorse on his mortgage security a receipt for all the monies intended to be thereby secured, pursuant to the Act 6 and 7 William IV., cap. 32, sec. 5.

[*Note.*—By Statute, 31 & 32 Vic. c. 124 (1868,) Stamp Duty is imposed upon mortgages to Building Societies exceeding £500]

### XXXV.—SECURITY FOR ADVANCES.

All property on the security of which an advance is made to a member shall be mortgaged to the Society until the advance be repaid, and the Mortgage Deed shall be so prepared by the Solicitors of the Society, or their counsel, as to meet the requirements of each particular case, and for that purpose shall be in such form and contain such powers, covenants, stipulations, and conditions, as they consider necessary; and among other things it shall be provided therein, that in case the mortgagor shall fail, neglect or refuse, for the space of four calendar months, to observe and perform all or any of his covenants for payment of repayment subscriptions, according to the terms and conditions of these rules, and the said mortgage, as well as any fines inflicted for neglect of payment, on his part to be observed and performed, then the trustees named in the said mortgage, or the survivors of them, or the executors or administrators of the last survivor or the trustees, for the time being, of the Society, may either with or without the privity or consent of the said mortgagor, his heirs, executors, administrators, or assigns, take absolute possession of the said premises



and may let the same, and may appoint a person, to be approved by the Board, to collect the rent of the premises thereby mortgaged; and may at any time thereafter absolutely sell all or any part of the said premises, either by public auction or private contract, and either together or in lots, and at one time, or separate times, if desirable, for the most money that can reasonably be had or gotten for the same; and every receipt of the trustees for the time being shall be a good and sufficient discharge to the purchaser paying the purchase money, who shall not be obliged to see to the application of the same, nor be required to see whether any or what monies shall be due under such mortgage, or whether there has or has not been any breach on the part of any such mortgagor of the rules of the Society, or of the stipulations of such mortgage deed, nor whether he has failed to pay any of the advance repayments, fines, or other payments either for the space of four calendar months, or for any other period, nor whether such trustees, or the executors or administrators of the last survivor of them, or the trustees of the Society, for the time being, have or have not authority for disposing of the premises comprised therein, but the possession of the title deeds and mortgage deed, and the written instructions of the Board of Directors, shall be considered sufficient authority for the disposing of the said premises; provided always that the money produced from such rents and profits, or such sale as aforesaid, shall, in the first place, be applied in payment of all costs and expenses which may be incurred on account thereof; and, in the next place, to reimburse the Society in the amount of repayment subscriptions then due and unpaid, together with all fines and commissions in respect thereof; and, in the event of a sale, of the then value of the future repayment subscriptions in respect of such mortgaged property, with interest on the aforesaid amount of arrears and fines, up to the completion of the sale, and on the then value of such future repayment subscriptions at the rate of per cent. per annum from the date of the first default. The present value of such future repayments shall be calculated by the Consulting Actuary from the date of the completion of the sale or sales to the end of the term for which the mortgage was originally taken, discount being allowed at a rate to be fixed by a majority of the Board of Directors present at any meeting, not less than\* per cent. per annum on such future repayment subscriptions to the end of the mortgage term. In case the rents and profits of the mortgaged property, and produce of the sale thereof, after deducting expenses, be not sufficient to discharge the amount of such repayment subscriptions in arrear, with the present value of the future repayment subscriptions so calculated, and interest thereon, the mortgagor so in default shall immediately pay the balance due thereon to the Society; but the trustees shall pay the surplus (if any) arising from the receipt of the rents and profits, and from the sale of such premises as aforesaid, to the said mortgagor, his heirs, executors, administrators, or assigns; provided always, that in case any of the mortgagors named in any mortgage deed, or his heirs, executors, administrators, or assigns, having obtained an interest in such

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\* [The rate of discount to be allowed on future subscriptions in case of sale under the provisions in this Clause, while not so low as to be oppressive to the Borrower, should be such as to afford a sufficient protective margin in favour of the Society.]

property (so long as the said premises continue in mortgage to the Society), shall be imprisoned for debt, or be made bankrupt, then such trustees, or the executors or administrators of the last survivor of them, or the trustees for the time being of the Society, with the sanction of the Board of Directors for the time being, shall have full power and authority immediately to take possession of the premises mortgaged, and let and manage the same, and collect the rents thereof, whether such mortgagor, or his heirs, executors, administrators, or assigns, be in arrear or not; and to sell the said premises, if the rents so received be not sufficient to meet the repayment subscriptions falling due in respect thereof; and in case any of the premises mortgaged to the Society be left incomplete, the trustees for the time being, under the direction of the Board, may complete the same, and the money expended and laid out in so doing shall be considered as part of, and in addition to, the original mortgage. And the said trustees shall also, with the sanction of the Board, have the option of selling and disposing of the premises mortgaged, either in their incomplete state, or upon the same being so completed as aforesaid.

#### XXXVI.—REDEMPTION OF MORTGAGED PROPERTY.

If any member shall be desirous of having his property discharged from the mortgage, under which it may be liable to the Society, before the expiration of the full term for which it was originally taken, he shall be allowed to do so on giving a notice of two clear calendar months prior to the ordinary meeting at which the redemption of such mortgage is proposed to be completed, and on payment of all repayment subscriptions and fines due in respect thereof up to the time of such redemption, and of the present value of the future repayment subscriptions calculated by the Consulting Actuary upon the principle of payments made at the end of each year to the end of the original term, and discounted after a rate of interest to be fixed by the Consulting Actuary not lower than per cent., together with a redemption fee of the Trustees for the time being shall, at the request of the Directors, and at the cost of the member, cause to be endorsed on the mortgage deed, a receipt or acknowledgment for the full payment of the amount secured in such mortgage in the form (E.) annexed to these rules according to the Act 6 and 7 of Wm. IV., cap. 32, sec. 5. Members giving notice of a redemption of a mortgage shall be liable to the usual fines for non-payment of the repayment subscriptions up to the time such redemption shall be completed.

*[In cases of Redemption under this Rule, the protective margin to the Society need not be so large as in the case of Sale under Rule 35.]*

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## GENERAL REGULATIONS AS TO THE SECURITIES.

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### XXXVII.—POWER TO EXTEND PERIOD OF REPAYMENT.

1.—In the event of a borrower being subsequently desirous of altering the period allowed for the repayment of an advance, he shall be allowed to do so, subject to the consent of the Directors, on giving not less than one clear calendar month's notice of his wish thereto, provided that the new term for the repayment of the remainder of his advance shall be approved by the Directors, and that his monthly repayment subscriptions for the new term shall be after the same rates per centum for the remainder of his debt, according to the established rates for advances; the debt at the time of the alteration of the term being estimated upon a compound interest table, at such rate of interest as the Consulting Actuary shall certify.

2.—Previously to any such alteration, the mortgagor shall furnish satisfactory evidence as to the unimpaired value of the security, and shall pay all expences of procuring such evidence.

3.—When an existing mortgage is to be altered, a per centage commission shall be charged, proportionate to the remaining amount due from the borrower, for the number of additional years which he has added to the duration of the mortgage; and the commission shall be after the same rate as that for new advances.

### XXXVIII.—REDUCTION OF MORTGAGE DEBT.

If any member, who shall have mortgaged property to this Society, shall, at any period after he shall have reduced his mortgage debt, be desirous of procuring any portion of the premises comprised in such security to be discharged from such mortgage, the Directors may upon being satisfied that an adequate and sufficient security will remain to cover the payment of the future repayment subscriptions, direct the Trustees to discharge such portion of the said premises as the Directors think proper.

### XXXIX.—TRANSFER AND SALE OF ADVANCED SHARES.

1.—Any member entitled to an advance on a share or shares which he may have subscribed for, and upon which all subscriptions, fees, or fines are paid, shall be allowed to transfer to any other member the right of such advance, with or without the shares belonging thereto, on payment of a transfer fee\* of                      per share to the funds of the Society, provided never-

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\* [If it be thought undesirable to encourage traffic in the right to advances, the Transfer fee in this clause should be fixed high.]



theless that every share so transferred shall be subject to the advance awarded or to be awarded on such share, and to all other charges payable according to these Rules.

2.—If any member who shall have obtained an advance, be desirous to sell the property mortgaged, the purchaser, on becoming a member of this Society, may take the property subject to such mortgage, and thenceforth shall become answerable for the payment of all repayment subscriptions in arrear, and fines then due thereon, as well as for all future repayment subscriptions and fines thereon from time to time to fall due in respect to such mortgaged property; an account of all which repayment subscriptions and fines then due and unpaid shall be made up and acknowledged (in writing) by the person proposing to receive such liabilities and property in mortgage, which said account shall be duly signed by the person so becoming a member, in the presence of the Secretary, Solicitor, or one of the Directors of the Society; and provided the sanction of the Directors be given to such transfer, the Trustees for the time being shall, at the request and cost of the member so transferring his interest in the mortgaged property, then release him from all future responsibilities in respect of such property so transferred.

3.—Every such conveyance to a purchaser, subject to the mortgage, shall be perused and settled by the Solicitor of the Society, at the expense of the mortgagor; and shall, when executed, be delivered to the Solicitor of the Society, and by him deposited with the other Title Deeds relating to the property comprised therein, as a further security for the money secured by the mortgage.

## XL.—SUBSTITUTION OF MORTGAGED PROPERTY.

If any Member shall be desirous of having his property discharged from the claim of this Society, he may, with the sanction of the Directors, transfer the same to other premises of adequate value, either belonging to himself, or to any other person willing to take the transfer of the shares so advanced, and to give security for the same, to be approved of by the Directors on the report of the Surveyor.

## XLI.—FIRE INSURANCE.

1.—All property mortgaged to this Society shall be insured in pursuance of any covenant contained in the lease or deed under which such property shall be held, or as the Directors shall determine; and the Secretary shall immediately effect such insurance in the names of the Trustees of the Society, in conformity with written instructions to be furnished to him by the Solicitor; or in case of neglect, shall be fined twenty shillings; and he shall pay all premiums for insurance of mortgaged property as the same shall respectively become due, or be fined twenty shillings for each insurance left unpaid; and the members on whose account such premiums for insurance shall be paid, shall on demand refund the amount so paid.

2.—Whenever any property mortgaged to this Society shall receive any damage from fire, or any other cause for which the Insurance Company may be liable to give compensation, the Trustees for the time being of the Society, shall receive the amount payable for such damage so sustained from the Insurance Company; the receipt of three Directors, countersigned by the Secretary of the Society, shall be sufficient discharge to the Insurance Office for the money therein expressed to be received; and the Directors shall have full power to settle and adjust with the Insurance Office any question relating to such insurance, and the amount to be paid by the Insurance Office in respect of the damage done to the premises; or to make such arrangements with the Insurance Office as to the rebuilding or repairing of the said premises, or relating thereto, as the Directors shall think reasonable.

## XLII.—GROUND RENT AND OTHER PAYMENTS.

When any property secured or mortgaged to the Society shall be subject to any land or property tax, chief or ground rent, quit rent, fines, reliefs, heriots, or other payments, the member to whom the property shall belong shall furnish the Secretary with a statement containing the amount of such payments, the name and address of the person or persons to whom, and the day or respective days on which the same shall become due and payable, and shall from time to time produce to the Secretary a receipt or acknowledgment thereof respectively, within fourteen days after the same shall become due or payable; or in default thereof, shall pay a fine of . In case any of the said payments shall not be duly made within such period as aforesaid, a further fine shall be paid by the member, for every £1 so due in respect to the said payments, and the Directors shall order the sum due to be paid out of the funds of the Society, and the mortgagor shall repay the amount at the next monthly subscription meeting, together with the said fines; and in default of payment thereof accordingly, the same shall be treated as repayment subscriptions in arrear, and be subject to further fines according to rule XLIII.

## OTHER REGULATIONS AS TO SHARES.

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### XLIII.—FINES, AND POWER TO SUSPEND.

1.—The fines for non-payment of unadvanced share subscriptions shall be at the rate of        per pound per month for each default.

2.—The fines for non-payment of repayment subscriptions on advanced shares, shall be at the rate of        in the pound per month on the amount thereof.

[*As to fines, see Parker v. Butcher, 36 Law Journal 553, Chancery, and Treatise, page 88.*]

3.—When the fines on an unadvanced share equal the amount of subscriptions paid in respect of the same, the said share shall be forfeited to the Society; and the member, to whom such share belonged shall thenceforth cease to have any interest in the funds of the Society in respect to such share, but the Directors may, at their own discretion, remit or waive such forfeiture, or allow a member specially to suspend his subscriptions on unadvanced shares, on such terms and conditions as they in each case may deem fit, on his making application to them for that purpose, prior to each subscription becoming due.

[*This clause will enable the Directors to meet the circumstances of members who, though finding themselves temporarily unable to keep up their payments, do not wish to relinquish their shares, or withdraw from the Society.*]

4.—When an advance is made to a member, the Directors shall have power, at their own discretion in each particular case, to allow the repayment subscriptions to be deferred for a period not exceeding two years; provided interest at the rate of 7 per cent. per annum on the amount of the advance be paid monthly by the member during the time that the repayment subscriptions are so deferred. The term for which an advance is so granted shall exceed one of the terms given in the table of repayment subscriptions by the number of months that the first repayment subscription has been allowed to be so deferred, and the repayment subscriptions (including principal and interest) shall be made after the rates given in the said tables, from the end of the period of deferment to the close of the term of the mortgage.

[*As to this Rule, see art. 69, page 44.*]

5.—If any member be in arrear in respect of his subscriptions, interest, or other sum, for more than one meeting, every payment afterwards made by such member, if not sufficient to discharge the whole amount in arrear shall



be applied, first, to the liquidation of the fines incurred, and then in the liquidation of the subscriptions, interest, and other sums in arrear.

6.—Members holding advances upon quarterly repayment subscriptions shall be considered to be in arrear of four months when any quarterly repayment shall have remained unsatisfied for the period of one calendar month after the same shall have become due.

7.—When the Consulting Actuary is consulted by the Directors at the request of any member or by cause of the default of a member, the fees payable to the Consulting Actuary shall be charged against the said member, and be treated as subscriptions in arrear.

#### XLIV.—ALTERATION IN RATE OF INTEREST.

In order to meet the contingency of any alteration in the value of money, or of the current rate of interest, or if it hereafter appear that the well-being of the Society shall so require, the Directors may, on the advice of the Consulting Actuary, with the sanction of a majority of the members actually present at a meeting of shareholders specially convened for that purpose, reduce the rate of interest allowed on the amounts subscribed by unadvanced shareholders (so that such decrease does not reduce the rate of interest to less than £3 per cent. compound interest, reckoned annually on the amount of subscriptions paid by them) and thereupon shall make a relative decrease in the monthly or quarterly sums to be paid by members who receive any advance on their shares; or, on the contrary, may increase the rate of interest to be paid on unadvanced shares, making a corresponding increase in the sums to be paid by advanced shareholders, in such manner as shall, from time to time, be deemed expedient, just and equitable; provided that such decrease, or such increase, as the case may be, of the rates on unadvanced and advanced shares respectively, shall in all cases bear the same relative proportion to each other as the tables herein contained for payment to unadvanced shareholders and payments by advanced shareholders, or as near thereto as possible; provided also, that such deductions or alterations shall only affect the holders of shares which shall be issued or advanced respectively, after the time of making such decrease or increase, and provided such decrease or increase, shall be first submitted to the Consulting Actuary, and be certified by him to be safe and equitable.

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## MANAGEMENT AND OFFICERS.

## XLV.—APPOINTMENT OF OFFICERS.

For the conduct and management of the affairs of the Society, the following officers shall be appointed:— Trustees, a Board of Directors, consisting of members, Bankers, Consulting Actuary, Auditors, Solicitor, Secretary, and such other officers as may be deemed necessary by the Board, who shall fix the amount of their salaries, fees, and other remuneration, and the duties from time to time to be performed by them, respectively. The Bankers, Consulting Actuary, Solicitor, Secretary, and other officers deemed necessary by the Board, and appointed by them, shall hold their respective situations at the pleasure of the Board.

[As to the officers, see *Treatise*, chapter 5.]

## XLVL.—OFFICERS TO GIVE SECURITY.

The Directors may, if they think fit, require any officer or other person whatever, who shall be appointed to any office in any wise touching or concerning the receipt, management, or expenditure of any money of the Society, to give security by bond with two sureties (in the manner mentioned in the Act 10 Geo. IV., cap. 56, sec. 11.)

## XLVII.—TRUSTEES.

1.— Trustees of the Society. Esquires, are hereby appointed the first

2.—All the monies and funds of the Society shall be paid into the hands of the bankers, to the credit of the Trustees of the Society,

3.—All deeds, writings, and securities in favour of the Society shall be taken in the names of the Trustees, and immediately on the receipt of any deeds, writings, or securities, on behalf of the Society, the same shall be lodged at the Society's Solicitors, in a box furnished by the Society; and no documents whatever shall be allowed to be removed from such box, unless by an order of the Directors, signed by at least three members of the Board then present.

4.—The Directors shall be at liberty to invest, in the names of the Trustees, any funds of the Society in government securities, or to commence or defend any action or suit relative to the affairs of the Society.

5.—The Trustees shall in no case be required to do any act without the express request and sanction of the Directors in writing, and they shall, for

every such act, be indemnified out of the funds of the Society from any loss, damage, or expense, and a written indemnity shall, if demanded, be given by the Directors, not being Trustees, and countersigned by the Secretary.

6.—The Trustees shall be *ex-officio* Directors, but shall not vote on any question unless they are qualified in like manner as the Directors.

7.—In case the said Trustees, or any or either of them, or any future Trustees shall die, or be desirous of resigning, or of being discharged from, or shall become incapable of acting in the trusts in them reposed, or be guilty of any gross neglect or improper conduct (of which the Directors shall be the only judges), or shall remove to a distance of more than twenty miles, or cease to have a place of business or residence within that distance; or if a difficulty of access to them shall impede the business of the Society, or if they shall become bankrupt or shall compound with their creditors, the Secretary shall convene a special meeting of the Directors, and the Directors shall hear and determine thereon, and may thereupon remove such Trustees; and as often as any new Trustee shall be elected or appointed, the Trustee removed shall cease to be a Trustee, and shall be incapable of acting as a Trustee after such removal, or after the appointment of a new Trustee has taken place. Any vacancy in the office of Trustee, from any cause whatever, shall be filled up at the quarterly meeting next ensuing by the members then present, and after every fresh appointment of a Trustee, the resolution of the appointment shall be signed by the Chairman of the Directors for the time being, or by the Chairman of the meeting at which such appointment shall be made, and by two members and the Secretary, and the same shall be duly entered on the minutes of such meeting, and be enrolled as a new Rule of the Society; and the estate, monies, securities, funds, deeds, papers, and property of the Society, shall become at once vested (without any assignment) in the continuing and newly-appointed Trustees.

8.—In the meantime, and until the appointment of such new Trustee, the continuing Trustees shall be competent to act as fully as if they were the sole Trustees of the Society.

9.—The Trustees respectively shall be chargeable only for their own acts and defaults respectively, and not for the acts or defaults of the others or other of them, nor for the acts or defaults of any other person or persons.

10.—In case it shall be deemed necessary or expedient to bring or defend any action, suit, or prosecution at law or in equity, touching or concerning the property or assets, rights or claims of this Society, or touching or concerning the breach or non-performance of any of the articles, matters, and thing herein contained, or of the conduct of any member or officer of this Society, the same shall be brought or defended by, or in the names of the Trustees for the time being; and they shall be indemnified from all loss or damage to be by them sustained in consequence thereof; but no such proceeding shall be taken or defended until the approbation of a majority of the members present at a special meeting, to be convened for that purpose, shall be first heard and obtained.



11.—When any Trustee of this Society shall receive an advance on his shares, or do any act as a Trustee of this Society, emanating from himself alone, then all his securities and undertakings shall be made in the names of the other Trustees of the Society for the time being.

#### XLVIII.—DIRECTORS.

1.—The elected Directors shall be holders of at least one unadvanced share, and one-third of them shall go out of office after the first two years, but be eligible for re-election.

2.—The future election of Directors shall take place at the annual general meeting, except in case of death during the year, when any vacancy shall be filled up by the Board.

3.—If any Director become bankrupt or resign, his office shall become vacant, and, if during the year, the vacancy shall be filled up by the Board, as in case of death.

4.—The Directors shall annually appoint, out of their body, a Chairman and a Deputy-Chairman ; and, in the absence of either Chairman or Deputy-Chairman, the Directors shall appoint a Chairman for the several meetings.

5.—One of the Directors (in rotation) with the Secretary shall attend the meetings for the receipt of money, within the hours specified in these rules, or at such other times as the Directors may think fit. Any Director failing to attend his rotation at the receipt meetings, or to procure a substitute, shall pay a fine of 2s. 6d., or if he fail to be present within ten minutes after the appointed hour, he shall forfeit one shilling.

6.—The Directors may divide themselves into rotas, or committees, for the conduct of the business, as they may think fit, (such committees or rotas to be open to the other members of the Board); provided, however, no rota shall continue longer than three calendar months at one time, without some change of members.

7.—The Board shall, from time to time, inspect the books of the Society.

8.—Each Director shall be paid s. for every attendance at a Board, or, in rotation, at a subscription meeting ; the Chairman shall be entitled to s. per Board meeting in addition.

#### XLIX.—SURVEYOR.

1.— of , is hereby appointed Surveyor to this Society.

2.—The following fees shall be allowed him :—

*(Here Scale of Surveyor's Fees.)*

3.—In all cases where the Surveyor is required to superintend the erection of any buildings on behalf of the Society, the remuneration shall be specially agreed upon by himself and the Board.

L.—SOLICITOR.

1.— of , is hereby appointed Solicitor  
to this Society.

2.—The Solicitor shall transact all the legal, equitable, and conveyancing business of the Society; and if any dispute arise with reference to his charges, the case shall be referred to

, whose decision shall be final and conclusive.

[In some cases, Solicitors agree to transact business for Building Societies at fixed charges, depending on the amount of the Loan. Where this is done, the Scale of Charges should be inserted in the Rules.]

## LI.—AGENTS AND BRANCHES.

1.—The Directors may, from time to time, appoint and remove any persons they think expedient to act as Agents and Managers of branches for the disposal of the shares, or the promotion in any other way of the objects of the Society.

2.—The duties, powers, and remuneration of the Agents and Managers of branches shall be fixed by the Board from time to time.

## LII.—BANKERS.

1.—The Directors shall, from time to time, select the bankers of the Society, and the signature of a Trustee shall not be necessary in any case to cheques drawn on the Society's account. No payment shall be made out of the Society's funds to the amount of five pounds and upwards, except by cheque, to be signed by not less than *Directors*, and countersigned by the Secretary, and all payments so made shall be valid and effectual as between the Trustees and the members.

2.—All money received from the members shall be paid into the Bankers to the credit of the Society by the Secretary, or such other person as the Board appoint.

3.—For the payment of current petty expenses, the Secretary shall, from time to time, receive a cheque of            pounds, which shall be duly renewed on a proper account of his former payments, to the amount of the last cheque received by him, being made to, and allowed by, the Board.

### LIII.—SECRETARY.

1.— is hereby appointed the Secretary of the  
Society.

2.—If the Secretary shall neglect to attend any meetings of the Society at the time named for the commencement of such meeting, without showing sufficient cause to the members then present, he shall be fined . . . . . He shall enter minutes of all resolutions passed at the meetings of the Board in

the Rough Minute Book, and the same shall be fairly copied into another, to be read as part of the business of the next meeting, and both to be signed by the Chairman. He shall keep the accounts in order, in proper books to be provided for that purpose, shall send all circulars, conduct the correspondence of the Society, and perform such other duties as the Directors shall require.

#### LIV.—AUDIT OF ACCOUNTS AND CONSULTING ACTUARY.

1.—At the first meeting of the Society, two Auditors shall be chosen, one by the Directors and one by the members present, for the purpose of auditing the accounts and watching over the expenses of the Society, prior to the annual general meeting. The future appointments of Auditors shall be made at the annual general meetings, except in the case of death during the year, when the vacancy shall be filled at the next monthly meeting by the Directors and members respectively present.

2.—The Consulting Actuary shall make an investigation of the accounts of the Society at the end of each year, and at such other times as the Directors think right, and to him all questions, as they arise, relating to the value of shares, redemptions of mortgage, &c., shall be specially referred.

#### LV.—REMUNERATION OF OFFICERS.

The members at an annual general meeting may, with the advice of the Consulting Actuary, vote a sum of money to be paid to the Directors and Auditors for their past year's services, and likewise to the other officers of the Society, over and above any salaries, fees, or other remuneration, which they may have had guaranteed to them.

#### LVI.—INDEMNITY TO OFFICERS.

The Trustees, Directors, Auditors, and other officers of the Society, shall be, and hereby are, indemnified and saved harmless out of its funds and property, from all losses, costs, charges, damages, and expenses, which they may incur or be put to in execution of their respective offices, services, or trusts; and none of them shall be answerable for any act or default of any other of them, or for the insufficiency or deficiency in title or otherwise of any security whatsoever which shall be taken for the repayment of any advance, or otherwise, on behalf of the Society, unless the loss arising by any such means shall happen through their own wilful neglect; nor shall they be liable for any banker, broker, or any person with whom the funds of the Society shall, from time to time, be deposited or placed out for safe custody, investment, or otherwise; nor for any involuntary loss, misfortune, or damage whatsoever, which may happen in the execution of their respective offices, services, or trusts, or in relation thereto, respectively.



## LVII.—DISSOLUTION OF THE SOCIETY.

On the happening of any event, rendering the dissolution of the Society necessary, a meeting of the members specially convened for that purpose (who shall have previously had submitted to them by the Directors a valuation made by the Consulting Actuary, of the liabilities and assets of the Society, due reference having been had in the said valuation to the number of years or months each share, unadvanced or advanced, shall have been in force, and to the bonuses or charges which may have been apportioned to each share respectively), shall have the power of fixing and determining the period at which this Society shall be finally and completely dissolved, upon a vote to that effect of at least three-fourths of the members then present, such decision to be confirmed by an adjourned special meeting of the members, to be held within three weeks afterwards—provided always, that not less than two clear calendar months' notice of such meeting shall have been previously sent to each member of the Society, and that notice shall have been posted at the offices and various places of subscription meeting of the Society for the time being.

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## CONSULTING ACTUARY'S CERTIFICATE.

I hereby certify that the Rules and Rates of the “ Permanent Benefit Building Society ” are founded upon equitable and sound principles, and may safely be adopted for its use.

Consulting Actuary.

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We hereby certify that the foregoing are the Rules of the “ Permanent Benefit Building Society.”

} Three of the members  
} of the said Society.

Secretary.

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I hereby certify that the foregoing Rules are in conformity to Law, and with the provisions of the statute 6 and 7 William IV., cap. 32.

The Barrister-at-Law appointed  
to certify the Rules of Savings Banks.

LONDON,

18 .

Copy sent to the Clerk of the Peace.

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## SCHEDULE OF FORMS.

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(A.)

To the Directors of the                      Permanent Benefit Building Society.

I request to be admitted a member of your Society in respect of                      share.

Dated this                      day of                      18                      .

Name .....

Residence .....

Occupation.....

(B.)

### *Form of Transfer.*

I,                      , one of the members of the                      Permanent Benefit Building Society in consideration of                      paid to me by                      , do hereby assign and transfer my share in the said Society, numbered                      , to the said                      , his (or her) executors, administrators, and assigns, subject to the payments, rules, and regulations prescribed by the Society. And I,                      , sanctioned by the Board of Directors, do hereby agree to accept the said share (or shares) subject to the same payments, rules, and regulations.

As witness our hands and seals, this                      day of                      18                      .

(C.)

To the Directors of the                      Permanent Benefit Building Society.

I request that you will make an advance to me of £                      in respect of share No.                      I hold in the Society, the advance to be repaid in                      years.

Dated this                      day of                      18                      .

Name .....

Address .....

Occupation.....



(D.)

To the Manager of the Permanent Benefit Building Society.

Sir,—I send you the following particulars of property which I am desirous of purchasing by auction to be held at the                      in                      on the                      day and I request that you will take the steps contemplated by article 1 of section XXXIII. of the rules of this Society.

Dated this                      day of                      18                      .

Name .....

Address .....

No. of Certificate .....

Date .....

*Description and Extent of Property.*

Where situate—parish, county, &c.?

The value per annum?

By whom held?

To what use to be applied by applicant?

(E.)

*Receipt to be Endorsed on Mortgage Security.*

We, the undersigned, the Trustees for the time being of the within-mentioned Permanent Benefit Building Society, do hereby acknowledge to have received of and from the within-named                      , his heirs, executors, administrators, and assigns, all monies intended to be secured by the within-written deed.

As witness our hands this                      day of                      18                      .

## PART II.

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# LOCAL ENTERPRISE ENCOURAGEMENT COMPANIES.

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*Ce qui manque aux hommes industrieux, dans les rangs des classes laborieuses, c'est l'instruction professionnelle et le crédit. La meilleure solution du problème des caisses d'épargne, c'est, à n'en pas douter, l'établissement d'institutions locales de crédit. AUG. VISSCHERS.—Etude sur les Caisses d'Epargne, Bruxelles, 1861, p. 60.*

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### CHAPTER I.

ART. 1.—In the year 1836, when the Building Societies' Act became Law, legislation for *Joint Stock Companies* was unknown. They were still subjected to the doctrines of the old unwritten Law relating to Partnerships, and unless they had obtained incorporation by the expensive and exceptional process of a Charter or an Act of Parliament, each member was considered an individual partner, responsible, to his last shilling and his last acre, for the whole of the debts of the partnership and for every act committed on its behalf by any other member. It is only since 1856 that the English Legislature (imitating tardily the law-makers of the Continent and America) has recognized the possibility of a *Limitation of individual liability* to losses on the part of a person entitled to receive any portion of the profits of a venture, and the year 1862 saw the passing of a comprehensive measure for the regulation of public Companies, which has rendered the incorporation of subscribers to any public purpose, with limited liability, so simple and easy a matter, that every day fresh Companies are started and new applications of the power of association devised. The system of Limited Liability, in a modified form, has, moreover, been made applicable to private partnerships by the Act of 1864, which enables a lender to share in the profits of a concern without being liable to lose more than the money invested.

2.—The Building Societies' Act, under which the societies, we have had under consideration in Part I, are required to be registered, has been already shown to have for its object the enabling the industrious classes to fructify their small savings by aggregation, with the view of investing them in a house or other real or leasehold property, and confers several advantages on societies established under it, the principal of which are simplicity of organisation and exemption from stamp duties (which, however, being much reduced are not of so much importance now as in 1836). On the other hand, Building Societies are hampered with restrictions that do not attach to companies formed under the Act of 1862; their investments are limited to real or leasehold estate; they cannot accept other security of any kind; they have no power to borrow; they cannot hold land; and, without these advantages, they are yet subjected to all the penalties of the winding-up clauses. When, therefore, it is desired to create a means of investment which shall be somewhat wider in its scope than the ordinary Building Society, it becomes necessary to register it as a Company; and this leads to the suggestion we have developed in the Prospectus and Plan contained in Chapter 3, further on. The proposition was originally brought forward by us in 1852, but was then suspended; the public mind not being prepared for the idea, *viz.*;—the formation, in each important town in the kingdom, of a *Local Enterprise Encouragement Company*, on the principle of the *French Crédit Mobilier*. The organisation of such a Company, as far as regards the depositing class of Members, would approach very closely to that of a Benefit Building Society; but, in the investment of its funds, it would be possessed of larger powers, enabling it to be made available for the general advancement of public undertakings of importance in the district.

3.—It will be seen that the sort of company we recommend to be formed is something very different from the large London Finance and Credit Companies, whose shareholders have suffered so severely during the recent monetary panic. A local society, taking no step except under the vigilant supervision of persons acquainted with every inch of the ground over which its financial operations would



extend, would be as little likely as an ordinary building society to run the risk of locking up its money in undesirable securities. It would contemplate none of those large and shadowy transactions in distant railways or foreign undertakings, which have been the cause of so much difficulty to the Finance or Credit Companies in the Metropolis. Moreover, it would not be compelled to go on to the Stock Exchange, or to ask for a quotation of its shares from any similar close Corporation, from which step so much mischief and disorder have lately arisen.

4.—However strange it may appear to those who see in a Stock Exchange only an embodiment of the principle of free trading in shares, and who do not admit that free trade in shares is not so beneficial as free traffic in every other commodity, there is no doubt that any company transacting business of a steady progressive character incurs the risk of much more injury than benefit by obtaining an “official settlement” on the Stock Exchange. It can be no advantage to such a company that its shares should be sought and held by persons who do not wish to remain members, and who are watching every turn of the money market to enable them to sell out at a profit. The class of shareholders it requires are those who invest in the concern from a *bonâ fide* interest in its welfare, intending to remain in it, to give their support and influence for the extension of its business, and to exercise a careful supervision over the soundness of its management.

5.—These remarks would apply if free trade in shares really existed on the Stock Exchange; but, as far as London is concerned, that is not the case; on the contrary, a most pernicious monopoly prevails.\*

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\* [The effect of this is graphically described by a writer who appears to be well acquainted with the inner life of the London Stock Exchange.

“In Paris and on the other Continental Exchanges, as well as in our own provincial Exchanges, transactions in securities take place through the medium of brokers, who are the mere agents of the outside public, and the seller receives the market value of his security from the purchaser, the only expense being the broker’s commission, which is usually in England  $\frac{1}{2}$  per cent. on stocks, and from 6d. to 5s. on shares of £1 to £50, or from  $\frac{1}{2}$  to 2  $\frac{1}{2}$  per cent.; and from one-half to one-third these rates on the Continent.

On the London Stock Exchange, however, and there only, there exists the class of

The practical results of the mysterious dealings of its members is easy to describe :—A perfectly sound and prosperous company may be brought to ruin by their means. Fictitious sales are made, and false rumours disseminated, to bring down the price of the Shares. If the company be one receiving deposits from the public, the depositors observe the downward tendency of the price of the stock, fancy something is wrong, and demand a return of their deposits. These must be met by borrowing upon the company's securities at ruinous cost for interest, or by selling them, or by making a Call on the shareholders. The possibility of adopting the first of these three courses depends upon the state of the money market; the second would probably entail heavy loss; and the third would force weak shareholders to sell to meet the call. The false rumours of difficulty

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jobbers who only buy what they are sure to be able immediately to resell, the result of whose operations is to foster, increase and aggravate speculation, and to entail an enormous tax, which is continually increasing, and probably amounts to upwards of a million a-year, on investors and speculators. It is more especially heavy on the light shares of the Finance and Marine Companies. If I want to sell, for instance, Union Marine shares, with £2 paid, at Liverpool, the last price being, say  $\frac{3}{4}$  to 1 prem., my broker there seeks out another broker, employed by a purchaser, and deals, probably, at the middle price, or 15-16ths prem.; whilst, if I sell in London, I lose the "jobber's turn," and have to sell at  $\frac{3}{4}$ —a loss to me, and a gain to the "jobber," of 2 per cent., whilst, on reselling, he makes a similar profit; and if he only makes one such operation in the shares in each fortnightly account, his profit will be upwards of 100 per cent. in the year.

"This, however, is but a small portion of the "jobber's" gain; and if the "jobber" were merely like the retail dealer, who bought shares wholesale, and resold them, without "banging," "rigging," or other trickery, at a profit, the public would not be such considerable losers. But, in aid of the "jobber's" schemes, there comes into play the operation of the fortnightly settlement; and as the outside public are usually "bulls," or speculators for the rise, when this term approaches, the "jobbers," who are usually "bears," or speculators for the fall, by means of inventing and circulating false or exaggerated reports, and by "banging" the shares, produce, if they can, a depreciation in securities, or, at least, prevent them from rising; and, as the outside investors or speculators seldom buy at the end of an account, and as the expense of taking up registered shares is 10s. per cent. for stamps, besides transfer fees, the "jobbers," are able to make a further enormous profit in "jobbing in contangoes."

"This is the penalty paid for "continuing" the shares for a fortnight, and this charge varies on the light shares from 6d. to 2s. 6d., or from the rate of 10 to that of 50 per cent. per annum. If a rise does not take place within a few "accounts," the needy speculator is obliged to sell, and put up with his loss; but the wealthier operator, who goes in for large profits and slow returns, which is his only chance, and who thus saves "contangoes" and brokers' commission on "continuation," borrows money for from three to six months from his banker or broker, at 1 per cent. above the bank rate on deposit of a sufficient cover, and stipulates that he shall pay but one commission on buying and another on selling.

"If the tendency of the market is upwards, and discount is low, the "jobbers" immediately set afloat all sorts of reports of a probable decrease in the Bank rate of discount, of enormous dividends, colossal additions to reserves, prodigious sums to be carried forward, great names to be added to boards of direction, advantageous amalgamations to take place, large transactions entered into likely to be profitable; that Rothschild, Baring,



thus verify themselves. More depositors day by day demand repayment; more shareholders sell, as they see the value of their property melting away, and thus contribute to, and hasten, the ruin of their company. Well content, as long as a company prospers, to receive their high dividends, there is no cohesion among them in times of difficulty, but each, to save himself, disposes of the shares for anything he can get, and thus plays into the hands of the conspirators who have plotted the destruction of his property.

6.—If a company is not on the Stock Exchange, its position is very different. In times of difficulty, the shareholders can meet and discuss calmly, without the disturbance of out-door influences, the

Peabody, or the directors are buying largely, and they then gradually "bull" the market by a tacit and common understanding, and raise the quotation by degrees, and the outside public, as a matter of course, urged by their brokers, rush in and buy on the rising markets.

"Suppose the quotation of certain shares to be  $\frac{7}{8}$  to 1, when the "jobbers" see that the chances are favourable for "bulling." One or two of the more influential, wealthy and daring, whom all the rest follow like sheep, call them 1 to  $1\frac{1}{4}$ , feeling their way gradually as to how many they will sell at that price, and thus only risking their "turn" if sellers appear, whilst, if buyers preponderate, they then advance the quotation to  $1\frac{1}{4}$  to  $1\frac{1}{2}$ , and so on, their leaders, perhaps, even risking somewhat more than the "turn" if the current is obviously strong in favour of the rise, whilst, at the bi-monthly "account," they may, perhaps, call the "contango" "even," or 3d. "back," in order still further to encourage the "bulls" by the idea that it is a "bear" account.

"As soon as an opportunity occurs, or can be made, for turning round, such as a real or supposed rise in the rate of discount, or something disastrous or ominous in the affairs of one or more companies, then are set going rumours of failures and calls, reports of losses, surmises of diminished dividends, or of the withdrawal or bankruptcy of directors, or assertions that Rothschild, Baring, Peabody, or the directors are large sellers; and then the "jobbers" turn round and become "bears," or sellers, with all the additional leverage which it is so much easier to establish on the fears than on the hopes of speculators. By reversing the operation above described, by risking the "turn," and, perhaps, somewhat more, and thus "banging" the shares, a heavy and profitable fall takes place, which, besides benefitting the "bears," stimulates and increases the business of all the dealers.

"There is another rock on which speculators usually split, namely, that, when money is easy, bankers and brokers will lend almost any amount with a very small cover, but the moment there is a rise in the rate of discount, and a fall in shares, the cover is doubled or trebled, or the loan is called in, and the shares must be sacrificed at any cost in a falling market. Brokers are notoriously afraid of incurring the ill-will of "jobbers" by endeavouring to deal at too low a "turn,"—say 1-32nd, which is considered shabby, or by dealing with other brokers and thus depriving them of their "turn," to the advantage of their clients, or by opposing stratagem to stratagem, and saddling the "jobbers" with shares when they suppose the principal is a *buyer*, instead of allowing them to find out, as they usually do, that he is a frightened or forced seller, and then to "bang" the shares in order to enhance the "turn" to the utmost possible extent. Experience shows also that brokers are the very worst advisers either as to buying or selling, and frequently make mistakes in their own private investments."]



means that should be taken to retrieve its position. In times of extremity, they can agree voluntarily to wind up, and make the best of their property, without leaving it to be melted away by the combined action of the Stock Exchange and the Court of Chancery. In times of prosperity, too, greater prudence is likely to animate their councils, for a permanent investor will not be likely to sacrifice the future of his company to his desire for enormous present dividends, and will be more sensible of the importance of creating a large and proper Reserve than the mere speculator, who hopes, by the announcement of a good dividend, to create a rise in the market, and so get rid of his shares at a profit.

7.—The gravity of the error committed, when large dividends are declared without setting aside a sufficient Reserve or Equalisation Fund, has been amply shown by the condition of the several London Credit and Finance Societies ; but, to avoid invidious reference to any of these, it will be sufficient to advert to the history of the *Crédit Mobilier*\* of France, the parent institution of the kind, which might have served as a warning to those of our own country, but for the evil influence exercised upon them by the Stock Exchange. Up to the close of 1855, that society met with uninterrupted success. Its profits that year amounted to 50 per cent. upon the paid-up capital, and an actual division took place at about that rate. Succeeding years, however, showed a diminution of prosperity. The profit announced at the close of 1856 was barely more than half that of 1855, and the profit at the close of 1857 was scarcely more than a third of the profit of 1856 ; so that in that year the society found itself compelled to forego the declaration of any dividend—1857 being one of the decennial years of panic. The avidity of the

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\* [The balance sheet of the *Crédit Mobilier* of France, for the year ending 31st January 1867, shows a balance of liabilities, proceeding either from the account of profit and loss or from the decrease of the *portfeuille*, which is not less than 8,195,000*fr.* The amount of advances to companies and of accounts current (indebted) is a little more than 106 millions against more than 130 millions representing accounts current (credit). One of the leading financial Journals of Paris remarks, that the fault committed in the management of the *Crédit Mobilier* is the facility with which advances have been made to companies. Prudence now requires that these advances should be got back as soon as possible, by getting the companies indebted to it to realize progressively their resources.]

shareholders for dividends, which led them to declare in one year the whole 50 per cent. profit that had been made, was thus the cause that no dividend at all could be declared two years afterwards ; a reserve fund of only one-third would have allowed of a dividend exceeding 30 per cent., and yet have very sensibly mitigated the subsequent fall. It is strange that an expedient so obvious and salutary should not have been adopted.

8.—One fertile cause of improvident declarations of profit and dividends has been the mischievous provisions introduced into the Articles of Association of many companies, by which Directors are entitled to a given percentage on the profits declared, while they themselves are vested with authority to declare the amount of profit made;—thus not only awarding their own remuneration (which is bad in principle) but also made liable to the temptation to exaggerate the profits earned by the company. It may not be an unsound principle to make the remuneration of directors dependent on the profits made by a company, but those profits should certainly be ascertained and determined by some other authority than the directors themselves.

9.—Many of the errors of existing companies, indeed, arise from excess of power given to directors, and excess of confidence reposed in them. It is not unusual to hear language such as the following addressed by directors of companies to their shareholders :—“ We are bound to study the interests of those who are connected with us in business ; and for us to specify the manner in which the profits are derived, however satisfactory that would be to the shareholders, yet might injure others, or disturb the relations between ourselves and those with whom we transact business.”\* If shareholders are willing to accept this argument as unanswerable, they certainly cast upon the directors a very heavy responsibility, for confidence so generous and so unreserved ought never to be betrayed. We think, however,

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\* [These are the actual words of the Chairman at a meeting of a company held in the early part of 1865. The speech was followed by the declaration of a 10 per cent. dividend, and a cordial vote of thanks to the Chairman and Directors. Not a question was asked, and the whole proceedings occupied only a few minutes. The company is now winding up in Chancery.]

that such confidence should neither be asked by directors, nor accorded by shareholders, since the language we have quoted may at some time or other be used to burke a legitimate enquiry, or to cover an undesirable transaction. For this reason we recommend that, in Local Enterprise Encouragement Companies, shareholders should have full power to examine the accounts, general meetings should be held at least once every quarter, and no call should be made, except on the authority of a meeting of shareholders.

Provisions should also be introduced into the \*Articles of Association to prevent the directors lending money on the company's shares, buying up shares on behalf of the company, or lending at all to members of their own body, or to the officials.

10.—It is not necessary, in this place, to go into many details as to the principles upon which a Local Enterprise Encouragement Company must be conducted to ensure success. It will be sufficient to give the following hints as to points of practice:—

#### I. *In making Advances:—*

1. Small Loans should be preferred to large ones, in order to multiply the investments and lessen the relative risk.
2. Loans for longer terms should be charged higher interest than for short loans.

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\* [Many Articles of Association contain clauses fixing the remuneration and privileges of promoters, directors, and others, the effect of which should be carefully enquired into by intending Shareholders. A series of Companies, founded by a gentleman residing in Belgium, contain provisions in their respective Articles of Association, which are worthy of notice, as showing the gradual growth in that gentleman's estimate of the privileges of founders. After creating, in 1863, a partnership en commandite, of which he was Managing Partner (with 20 per cent. on the profits), he started in succession three Companies, which we will call A, B, C, each of which was, to some extent, auxiliary to the original concern. A was registered as a limited Company in London in the year 1864, and he was appointed by the Articles Managing Director for five years certain. The promoters (of which he was one) were to receive 10 per cent. on the excess of the profits over a 6 per cent. dividend for 90 years, and the Directors were to receive £6000 between them, and another 10 per cent. on the excess of profits. In Company B, likewise an English one, established January, 1865, but managed by this gentleman abroad, the promoters' 10 per cent. was to continue during the whole existence of the Company, and six-tenths of it were to be placed at his sole disposal. Company C was established in England in September, 1865, and by the Articles this gentleman was again appointed Managing Director, but this time for seven years, with 5 per cent. of the surplus profits for himself; the Directors were also appointed for seven years; and the promoters' remuneration was increased to 20 per cent., the whole to be placed at his sole disposal.]



3. In every transaction a margin in the security given should be required, increasing in amount with the period for which the advance is made.

II. *In receiving Deposits* (if that be part of the business proposed to be transacted by the Company) :—

1. A low rate of interest only should be promised on deposits for a short term, or withdrawable at short notice ;—the interest being graduated according to the term for which the deposit is made, or the notice agreed to be given.
2. The whole of a Depositor's account should not be allowed to be withdrawn at once, but by successive notices of one-fourth or one-fifth at a time.

The success of every company, however, depends mainly upon the providing effective independent supervision over its management. We shall proceed, in the next Chapter, to show how, practically, this should be done.

## †CHAPTER II.

### *Remarks on the Audit and Management of Enterprise Encouragement Associations, and of Public Institutions generally.*

ART. 11.—To protect the Local Enterprise Encouragement Associations, whose formation we suggest, from the shipwreck which has befallen many Joint-Stock Companies in London, effective audit and judicious management are of the highest necessity. In order to insure success it is becoming recognised that the management should approach as nearly as possible to the form of *Executive individuality*,\* a fact which the prosperity of ordinary trading firms sufficiently demonstrates.

But as even such an executive is likely to be less cautious in the management of other people's money than of its own, there arises the necessity of a thorough audit of the Society's affairs, and of surveillance over the executive body.

For one company that fails by dishonesty or from want of skill on the part of the chief official, ten come to grief from careless supervision. The best form of direction is an Executive Committee of five shareholders; for, judging by analogy, the prosperity of a public company can only be secured by the same system of concentrated

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\* [In addition to executive individuality in the management, the objects of the association should be few and all of like kind.]

The *Credit Mobilier* of France is tending to failure, because it has attempted a *multitude of operations*, each requiring special knowledge and experience. Where the management is directed to a variety of purposes, its want of concentration renders it weak and inefficient.

An association of such a multiform character is also more likely to be affected by social disturbing causes, than where one object alone is kept in view.]

† [Extracted from Part VI. of the Treatise on Savings Banks.]

personal management, as is adopted in the great private commercial firms of this country.

12.—Experience has, unhappily, shewn that all Joint-stock associations are liable, if surveillance be not exercised, to losses from frauds;\* and an opinion has become prevalent that the time is come for some legislative enactment to secure not only a better and closer audit of the *account-books* of a company or bank, but also for enabling auditors to make inspection (where circumstances appear to require it) of the *minutes* of the Board of directors and the *letter-book* of the Secretary.

Some years back we submitted to the Board of Trade the draft of a Bill for a system of audit and inspection. The clauses recommended in the Bill, in order to carry it into effect, we give below.†

\* [Frauds, of course, are not peculiar to any country. For example, in France, it was stated on the trial of the notorious Prost,—who was condemned to three years' imprisonment, £40 fine, and to restore £21,533 (sterling) to the shareholders he had defrauded—that since 1857, the Managers of not fewer than forty companies *en commandite* had been prosecuted for fraud, and that the amount of shareholders' money which they had "absorbed" was not less than £1,600,000 sterling. The punishment, however, was not allowed to rest on Prost alone, and in this respect it may be remarked they *do* "do these things better in France," for the Court declared the members of Prost's *conseil de surveillance* responsible for the £21,000 ordered to be refunded to the shareholders, on the ground that it was owing to their neglect of duty that Prost was enabled to commit the frauds.]

#### *Proposed Audit Clauses.*

† ["1. The Directors of each Bank or trading company in Great Britain and Ireland shall within three months after the passing of this Act, and from time to time, at intervals of three years, or, in case of a vacancy, within one month thereof, summon the customers, depositors, or other creditors, not being shareholders of the said bank or public company, to meet together at the offices of the bank or company, in order to appoint or reappoint two or more Inspecting Auditors of the said bank or company; and the said Directors shall, immediately after such appointment, transmit the signature, name, and address of each of the Inspecting Auditors to the Board of Trade; and the Directors of every Joint-stock Bank or public company shall cause the annual and other statements required to be transmitted under the Acts relating to Joint-stock Banks or public companies to be certified and verified by the Inspecting Auditors so appointed by the said depositors or others as aforesaid, in addition to the attestation now required by the said Acts, and shall also cause a certificate from the said Inspecting Auditors, as to the result of their examination of the books, to be transmitted to the Board of Trade.

"2. The summons for the election of the Inspecting Auditors as aforesaid shall be by advertisement in two or more of the local newspapers, and by announcement affixed in a conspicuous part of the offices of the bank or company, and the creditors shall have power to adjourn their meeting or meetings for the election of Inspecting Auditors, at intervals of not more than fifteen days, as often as may appear to them necessary for the better selection of such Inspecting Auditors. And it shall be lawful for them to delegate



13.—Under the proposed system, it is evident that if the Depositors or claimants do their duty, and appoint professional accountants of sagacity and experience, then the existence of such Inspectors and the possibility of their exercising their power at unexpected seasons would act as a check upon fraudulently-disposed officials and remove the opportunity which creates the crime.

That Government has hitherto taken no steps in the matter may be attributed to the unwillingness of the Legislature to interfere with the supposed right of every one to manage his own affairs as he may think best ; but whilst society is willing to recognise that right, as regards private individuals, it does not follow as a consequence that it is proper when a number associate together for the purpose of monetary transactions with the rest of the community. Experience is beginning to shew that it is easier to obtain information as to the responsibility and credit of private persons, than—under the present

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*Proposed Audit Clauses—(continued).*

the selection of Inspecting Auditors to a Committee of their own body, not less than twelve in number, of whom none shall be acting at the time as Trustee, Director, or Manager of the bank or company. The Inspecting Auditors elected may be either creditors or accountants (publicly acting in such capacity) ; provided always, that in the event of no such election being made within three months after a vacancy has occurred in the office of Inspecting Auditor, the Directors shall report the same to the Board of Trade ; which shall, with all convenient speed, appoint Inspecting Auditors for the purposes hereinafter provided.

“3. The Auditors shall have power, without notice, to attend and inspect the account books and all other books or documents of the bank or company they require ; and from time to time may cause the books of depositors or customers of a bank, or claims of creditors, to be produced at the offices, for the purposes of being inspected, examined, and verified with the books of the bank or company by them.

“4. It shall be lawful for the Board of Trade, and they are hereby authorised and empowered to settle and appoint the allowances to be paid for the services, pains, and labours of such Inspecting Auditors, in manner and for the purposes aforesaid, out of the funds upon which the expenses of management of the said bank or company are chargeable by the Deed of Settlement.

“5. It shall be the duty of all officers of the bank or company to produce, for the examination of the Inspecting Auditors, all books or documents in their custody or power.

“6. Any Inspecting Auditors may examine on oath the officers and agents of the bank or company in relation to its business ; and may administer such oath accordingly. If any officer or agent refuses to produce any such book or document, or to answer any question relating to the affairs of the bank or company, he shall incur a penalty not exceeding five pounds in respect of each offence.

“7. A copy of the report of the Inspecting Auditors, authenticated by the seal of the bank or company into whose affairs they have made inspection, shall be admissible as evidence in any legal proceeding.”]

system of audit—as to the solvency and internal honesty of associations.

14.—*As to Directors and Auditors.*—The frauds in public companies may be mainly attributed to the fact, that the Directors, in too many instances, are either so engrossed in their own affairs, or possessed of too little knowledge of the details of the company they profess to govern, to enable them to be very accurately informed of its actual financial condition.

Directors would, perhaps, answer that they rely upon the appointed Auditors ;—but that would be only justifiable when those officials are professional accountants.

The generality of Auditors elected by Shareholders are persons having no repute for experience in matters of finance, and their audits, in consequence, are little more than an illusion. Auditors, to be of any real value, should be in the character of Committees of Surveillance, and should not be expected to content themselves with checking the vouchers for payments, and the accuracy of the items entered in the office-books. As long as it is considered a piece of interference on the part of the Auditors if they desire to extend their investigations beyond the accounts of a company, they can give no guarantee either to the Shareholders or to the \*Creditors that all the transactions of the Directors and officials have found a record in the books.

Hence the present system of audit is in the highest degree pernicious, for it tends to create the idea of security where none is really given.

15.—The public mind is perplexed as to how fraud can be prevented. It is urged, that when a concern is not managed entirely by one proprietor, somebody must be trusted, and that Auditors would not be able to prevent forgery or the falsification of accounts. This objection is groundless, for fraud begins when neglect of supervision in the management commences ; and the best way to prevent fraud is to introduce a system which will create a fear of detection.

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\* [By the word "*Creditors*" of a Bank would be meant the *Customers* or *Depositors*.]

It is not to be expected that Directors, who meet but once or twice a-week for an hour or two, can have any very detailed knowledge of the finance of a company; and, even if they had the leisure, it does not follow that those, who manage a concern, would be the best persons to audit its accounts.

Unhappily, moreover, the culpability of the Directors is not always limited to laxity of management, but appears to have had rise in some instances, if we may judge by recent exposures, from an unworthy desire to commit and conceal dishonourable operations with the funds entrusted to their care.

\* The real source of the disease is the inefficiency of the system of audit now in force. The gentlemen appointed are too often the nominees of the Directors, even where they appear to be elected by the Shareholders, and owe their election, not so much to their skill in investigating accounts, as to their being friends of the managing officials. Not unfrequently do they take their first lesson in auditing books at the company which they are appointed to investigate.

\* [An aggrieved bank shareholder writes on this subject:—"Some few years ago, when joint-stock accounts were admitted to have been 'cooked,' and when Government audit was objected to (perhaps warrantably objected to, in so far as likely to be palmed off for a Government voucher), a printed appeal for a remedy was circulated among Directors themselves; but instead of concerting proper principles of audit, the Directors, constrained to engage public accountants for the unravelling of old complications, were content with engaging such gentlemen upon their permanent staff for the avoidance of like complications in the future. Since then we have seen the attestations of eminent accountants paraded at the foot of accounts, the responsibility of which, in the popular sense, they repudiate. In sooth, their own appointment having become another bit of directorial patronage, and their multifarious engagements preventing due personal tests of returns, accepted by their own subordinates from the official subordinates, such returns are carried to account agreeably to 'established precedents,' or to 'official prescription;' whereas, what is wanted is some independent and uniform system of charge and discharge, always commensurable by common standards, and intelligible to the uninitiated as well as to those behind the scenes.

"What then is required is, not to supersede routine, but to apply sagacity and experience at unappointed times, and in unexpected places, for the testing of the actual routine is sufficient for ever-changing circumstances. *While simple-minded, hard-working Auditors have been pottering over huge folios which engross and divert their energies, corporate property has been fraudulently wasted notwithstanding, and that, too, by means of the very accounts which Auditors have verified.*" With the view of providing more efficient control over the management of Banking Companies, a Bank Manager suggests that the London Joint-stock Banks should form themselves into an association to be called the "Associated London Banks":—

1. That one person from each subscribing bank, either a director or the manager, as shall be decided, shall be deputed to represent that bank at the committee of the A. B.

2. That such committee should prepare and submit for approval to the respective boards of the subscribing banks, such general rules as shall be deemed necessary for the



Nor, indeed, is it sufficient for an Auditor to be merely an honourable man, for it requires special experience to know where the hands of the "cook" may be traced in a series of accounts.

16.—We repeat, therefore, that, however excellent associations may be in principle, their success cannot be secured, when they are only nominally managed by a Board, however respectable, unless the Directors be sufficiently limited in number to secure unity of mind and regularity of system, so that the objects of the Society may be carried out in its most minute details. A large, and, what is generally termed, an imposing, first-class, Board of Directors is frequently careless in the discharge of its duties. From the want of regularity in the attendance of its members, there arises a want of unity in their deliberations. Knowing little or nothing of the real working of the institution, and deceived by a certain audacity of manner and jaunty bearing on the part of their chief subordinate officer, directors not

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guidance of the subscribing banks, in conducting their business on sound banking principles.

3. That the committee should draw up and have printed for the use of the subscribing banks, a set of forms of the returns to be made every three months to the committee by each of the banks, such forms to be of such a nature as to show the exact position of the bank at date, and to enable the committee to decide that each bank is keeping strictly within the rules laid down.

4. That the committee shall not have the power of altering any of the above-named rules when once agreed upon, without the sanction of the majority of their respective boards.

5. That the committee shall appoint a secretary and the necessary staff of clerks required for the working of the association, and that the expenses be borne by a subscription from the banks, regulated in proportion to the capital of each bank.

6. That any bank, a member of the association, having fulfilled all its rules, and honestly rendered the required returns, should, in the event of a run upon it, receive from the other members of the association the required assistance, even to the payment of *all its liabilities*.

7. In the event of any bank so losing the public confidence as to necessitate the meeting of all its liabilities by the association, such bank to cease business, and to hand over all its assets to the committee for realisation, and also full power to enable the committee to recover from the shareholders of such bank. Thus the committee would become the liquidator, and avoid all law expenses.

9. That the association and the names of its members should be fully advertised. Thus the public would see that their deposits with any of the members were guaranteed, not only by its individual capital and management, but also by the capital and surveillance of the associated bankers.

10.—Any member of the association neglecting or refusing to comply with the rules laid down, shall cease to be a member, and be advertised accordingly, and the association become no longer liable to support it.]

unfrequently leave the administration of its affairs too much in his hands.

Hence there arises, from his impropriety of conduct or want of capacity, a variety of circumstances, which, fostered by supineness on the part of the Directors, have brought many a scheme, excellent in the abstract, to bankruptcy, and inflicted great injury on the community.

17.—To provide, then, a sufficient bar to dishonesty, or curative to lack of principle, a Committee of two professional Inspectors should be appointed, whose duty it should be to exercise a surveillance over the Executive Committee, without interfering in the acts of management, except to report what is being done to the constituents of the Company or Shareholders. The Inspectors should not both be simply accountants: one at least should be required to possess some legal, as well as professional knowledge, of the matters pertaining to the particular class of business they are called upon to supervise. They should be required to test the accuracy of the reports from time to time submitted by the Managers; and to watch that all their measures taken are in strict accordance with the Deed of Settlement, and the objects and principles of the Society. These Inspectors should be men of fair position in life, and be adequately paid. Their tenure of office should be limited, and fresh Inspectors should be appointed—under a Rotation system—every two or three years. They should, more particularly, *not be permitted to send their clerks to do the work* which they have undertaken, and for which they have been personally selected.

Thus would they have the strongest incentive to the faithful discharge of their duties, since, by any neglect, they would not only lose the particular appointment they hold in one society, but render themselves ineligible to like offices in other institutions.

18.—If it be objected, that in some recent notorious failures the management was intrusted to men of supposed superior position in life, we answer, that in those very instances the public were deceived

by an apparently respectable Board of Directors placed over the company's officials, who, while they were not ashamed to draw large remuneration out of its funds, were yet too indolent to exercise a necessary and wholesome supervision over its affairs. This would not have occurred had there been Inspectors attached to the association, instead of a large body of Directors, who had no such special experience as would enable them to detect the irregularities that were occurring.



### CHAPTER III.

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#### Draft of a Prospectus for a *Local Enterprise Encouragement Company (Limited).*

Capital £ .

With power to increase.

Shares, £10 each,—in three Classes:—

[A and B not withdrawable, C withdrawable].

CLASS A.—*Paid-up Shares*, on which £1 is to be paid on application, and the remainder on allotment.

CLASS B.—*Shares at Call*, on which £1 is to be paid on application, £1 on allotment, and the remainder to be called up when required by the Company, in sums not exceeding £1 at each Call, nor at less than three months' notice.

CLASS C.—*Withdrawable Subscription Shares*, to be paid up in full by fixed monthly or quarterly instalments, extending over given terms of years (*on the Building Society plan*), and credited with a Preference Dividend by way of Compound Interest, at the rate of four per cent. per annum, and with a Bonus at the end of the term.

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*The liability of Shareholders is limited to the amount of their Shares.*

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OFFICERS.

Directors.

Inspecting Committee.

Audit and Check Committee.

Solicitor.

Consulting Actuary.

Surveyors.

Bankers.

Secretary.

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The objects of a Local Enterprise Encouragement Company, to be set forth in the Memorandum of Association,\* should be one or more of the following, according to the opportunities and requirements of the locality :—

- “ 1. To *purchase* Government Stock, and Shares and Securities of every kind in local firms or local *public undertakings*, either now or hereafter established.
- “ 2. To *create* and *encourage* local *undertakings* of every kind, such as railways, canals, workshops, docks, lighting of streets, &c., *extension of tillage*, irrigation, drainage, and every other species of enterprise connected with local industry.
- “ 3. To effect the *Amalgamation* or *Transformation* of any commercial companies whatever in the district, and to undertake the *issuing of Shares or Debentures* of such companies.
- “ 4. To *contract for Loans* to the provincial and local authorities.
- “ 5. To *administer*, adopt, or take upon lease, contributions and undertakings for local *public works* of every kind ; to take contracts and carry them out, either on account of the Company, or by letting them to sub-Contractors.
- “ 6. To do all acts and things necessary or expedient for realising and obtaining the full benefit of all securities or property on which any monies of the Company are advanced.
- “ 7. To discount local bills of exchange, promissory notes, bonds, and other securities and obligations ; to deal in exchanges, specie, securities, and other representatives of value ; to receive money on loan or deposit ; to negotiate loans of every description ; to advance money on deposit of title deeds, securities, local contracts, agreements, covenants, bills of sale, bills of lading, delivery orders, and other mercantile documents.

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\* [A variety of objects are herein suggested, but each Company will select such as come within its scope and design.]

- “ 8. To take and realise securities, both real and personal :—  
to buy and sell produce, merchandise, stocks, shares,  
bonds, mortgages, debentures, and obligations of  
every description.
- “ 9. To *collect debts and revenue* on behalf of *other local companies*, public corporations, and *private* individuals,  
to pay their coupons of interest and dividend, and to  
transact commissions of every kind as *local agents*.
- “ 10. To guarantee Loans, raised elsewhere by third parties,  
to a limited extent, (not exceeding in any particular  
case                      per cent. of the paid-up capital of the  
Company).
- “ 11. To treat, act, unite, or amalgamate with, buy up, or  
absorb, any other local Company.
- “ 12. Generally, to exercise all the powers and perform all the  
duties of a LOCAL ENTERPRISE ENCOURAGEMENT COMPANY.
- “ 13. To do all things the Company from time to time consider  
to be incidental or conducive to the attainments of its  
objects, or otherwise for its benefit.”

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SHARES in Class C become realised by the following Monthly and Quarterly payments, which are calculated upon the Building Society principle, allowing Compound Interest at four per cent. per annum :—

Term of Years.	Monthly Payment to realise One Share of £10. with a Bonus at the end of the term.				Quarterly Payment to realise One Share of £10. with a Bonus at the end of the term.		
	s.	d.			£.	s.	d.
Two Years	-	8	3	-	1	4	7
Three Years	-	5	5	-	0	16	1
Four Years	-	4	0	-	0	11	10
Five Years	-	3	1	-	0	9	3
Seven Years	-	2	2	-	0	6	5
Ten Years	-	1	5	-	0	4	3



They rank for Surplus Dividend on the amount of subscriptions paid up by the *commencement* of the financial year, and upon realization are exchangeable for Shares in Class A, if not withdrawn.

The Company receives DEPOSITS of not less than £10, at rates of Interest increasing with the period for which the amount is deposited; for example (Rates for the present year)—

If the Deposit be for	6 months certain,	per cent.
If	„ „ 12 „ „	per cent.
If	„ „ 2 years „	per cent.

Deposits for longer periods, or repayable by instalments, at special rates.

The Company issues DEBENTURES, repayable in fixed periods of years, at rates of Interest payable half-yearly, varying according to the duration of the Debenture.

The net profits will be ascertained yearly, and if, after providing for Interest on deposits and debentures, and for the preference compound Interest and Bonus on the shares in Class C, they exceed the amount required to pay a dividend of \*— per cent. on the shares in Classes A and B,—such excess will be applied as follows:—

One-third to a *Permanent Guarantee Fund*, reducible periodically, as set forth in the Articles of Association.

One-third to an *Equalisation Fund* for future Dividends.

And One-third by way of surplus Dividend for the current year on the shares of all three classes.

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\* [The Shares in Classes A and B not being withdrawable, and having no guaranteed dividend, should receive a higher interest than that credited to Class C shares, before any surplus dividend is allotted among the three classes alike.]

## CHAPTER IV.

### *Proceedings necessary to register a Company under the Companies' Act, 1862.*

ART. 1.—For the convenience of persons who desire to establish *Local Enterprise Encouragement Companies*, we state here the proceedings necessary to obtain incorporation for an Association of the kind, with limited Liability. No Prospectus should be issued, or public act of any kind taken, until the Company has received legal incorporation. For this purpose, it is necessary that the Promoter should associate with himself six other persons, as signatories of the Memorandum and Articles of Association. As the names of the seven are publicly and permanently registered at the Government Registration Office as the first members of the Company, it is desirable that they should be persons occupying a position of some influence in the district.

2.—The Memorandum of Association must be in the following form :—

“1st.—The name of the Company is “The ..... Limited.”

“2nd.—The registered Office of the Company will be situate in [England.]

“3rd.—The objects for which the Company is established are [here set forth such of the objects mentioned in the last chapter as are proposed to be undertaken, not omitting the general clause, there numbered 13.]

4th.—The liability of the members is limited.

5th.—The Capital of the Company is ..... pounds, divided into ..... Shares of ten pounds each.

“We, the several persons whose Names and Addresses are subscribed, are desirous of being formed into a Company, in pursuance of this Memorandum of Association, and we respectively agree to take the number of Shares in the Capital of the Company set opposite our respective names.”

Then follow the names, addresses, and descriptions of the seven or more subscribers (each of whom must take at least one Share, and must write opposite to his name the number of shares he takes), the date, and the name and address of a witness to the signatures. The Memorandum of Association must be registered at the Joint Stock Registry Office in Serjeant's Inn, Fleet Street. The fee payable on Registration depends upon the Capital of the Company, and is according to the following Scale :—

		£.	s.	d.	
Capital not exceeding	... .. £2000	Fee	2	0	0
" "	" ... .. £3000	"	3	0	0
" "	" ... .. £4000	"	4	0	0
" "	" ... .. £5000	"	5	0	0
(every additional £1000 up to £100,000, 5s. extra.)					
Capital not exceeding £100,000	... ..	"	28	15	0
(every additional £1000 up to £525,000, 1s. extra.)					
For any amount exceeding £524,000	... ..	"	50	0	0

These fees are collected by stamps, which are supplied by the authorised agents.

3.—The Memorandum of Association may be accompanied by Articles of Association, in which the various domestic provisions that are to bind the Members of the Company in their relation to each other as directors, office bearers, or shareholders should be simply and carefully set forth. If no Articles of Association are registered, then the Company is bound by the model set contained in Table A of the first schedule to the Companies' Act ;—but as some of the provisions of Table A might be inapplicable to the intended Company, and as it can contain no special clause appertaining to the particular business proposed to be transacted, inconvenience would probably arise from leaving the Company on this footing. Some legal authorities have advised, in consequence, that every Company should provide that none of the Articles of Table A shall apply to it, and should frame an entirely new set for itself. With this advice we do not concur : we think the better plan is to adopt such of the provisions of Table A as appear to be applicable, and specifically to repeal in detail such as it is thought undesirable to adopt. The first Clause,



therefore, of the Articles of Association of the Company should be as follows :—

“1.—All the Regulations contained in Table A in the first Schedule to the Companies' Act, 1862, shall apply to this Company, except in so far as it is otherwise expressly provided herein.”

The promoters and their legal adviser should carefully search and consider the several Clauses of Table A, and if they desire to alter any, should insert in their Articles the following :—

“Article                      of Table A aforesaid shall not apply to this Company.”

They should then set forth at full length the amended Clauses they intend to adopt, and also any additional provisions, not contained in Table A, which they think it desirable to make for the future guidance of the Company.

4.—The Articles of Association must be printed, and signed by the subscribers to the Memorandum of Association, and a fee of 5s. is payable on registration of them. Upon registration, they are binding upon all persons who are or become Shareholders to the same extent as if they had been signed and sealed by each, and cannot be altered except by a Special Resolution of the members, that is, one carried by three-fourths of those present at a meeting, and confirmed by a majority of a subsequent meeting.

5.—Upon receipt of the Memorandum of Association, the Registrar of Joint Stock Companies gives a certificate that the Company is incorporated, and the Subscribers may immediately proceed to issue their prospectus, allot shares, and generally exercise all the powers which the Company possesses. The objects set forth in the Memorandum should be quoted in the prospectus, so that no person applying for shares may hereafter be able to say that he was unaware of them :—but at the same time, every Shareholder in any Company whatever, should bear in mind, that it is not only his right but his duty to make himself acquainted with all the provisions of those documents to which, by agreeing to take Shares, he has made himself a party.

## APPENDIX.

## ERRATA.

Owing to an accident in the type, the following errors may be found in this work :—

Art. 2, page 2, line 18 from top, for  $\left(n + \frac{a}{b}\right)$  read  $\left(n_1 + \frac{a}{b}\right)$

Art. 9, page 5, line 12 from bottom, *for a read as.*

Art. 18, page 11, bottom line, for  $\frac{30}{1.1592}$  read  $\frac{30}{1.1592}$

Note to Art. 51, page 26, the denominators (i) of the fractions dropped.

Art. 56, page 31, bottom line, *for* Log.  $\frac{4}{-}$  *read* Log.  $\frac{4}{3}$

Art. 61, page 34, line 13 from bottom, for  $\frac{P \cdot i}{m}$  read  $\frac{P \cdot i'}{m}$

Art. 78, page 40, line 10 from top, for  $\frac{p^x}{p_x + \frac{S'_x}{m} \{ (m-1)d + d' \}}$  read  $\frac{p_x}{p_x + \frac{1}{m} \{ (m-1)d + d' \}}$

[illegible]

$\therefore$  The amount of P with interest in one year is  $P \cdot (1 + i)$ .

Again, the amount of P with interest in *two* years will, of course, be equal to its amount, at the end of *one* year, re-invested for a second year ; or, to the amount of  $P \cdot (1 + i)$  with interest in one year ; that is, it will be equal to

$$P \cdot (1 + i) + i \cdot P \cdot (1 + i) = P \cdot (1 + i)^2$$

Similarly the amount of P with interest in three years is

$$= P \cdot (1+i)^3$$

and so on for  $n$  years, where  $n$  is any *integer*,

$$\therefore Z = P \cdot (1+i)^n \dots\dots\dots (1).$$

In the above the time is expressed in years, but, from the nature of the

\* [The theorems and articles marked thus † have a special relation to each other.]

therefore, of the Articles of Association of the Company should be as follows :—

“1.—All the Regulations contained in Table A in the first Schedule to the Companies' Act, 1862, shall apply to this Company, except in so far as it is otherwise expressly provided herein.”

The promoters and their legal adviser should carefully search and consider the several Clauses of Table A, and if they desire to alter any, should insert in their Articles the following :—

5.—Upon receipt of the Memorandum of Association, the Registrar of Joint Stock Companies gives a certificate that the Company is incorporated, and the Subscribers may immediately proceed to issue their prospectus, allot shares, and generally exercise all the powers which the Company possesses. The objects set forth in the Memorandum should be quoted in the prospectus, so that no person applying for shares may hereafter be able to say that he was unaware of them :—but at the same time, every Shareholder in any Company whatever, should bear in mind, that it is not only his right but his duty to make himself acquainted with all the provisions of those documents to which, by agreeing to take Shares, he has made himself a party.



## APPENDIX.

◆

THE following pages (which were first published in 1849) contain the elementary propositions of Compound Interest, which relate more particularly to the system of Benefit Building, and other Investment, Societies, together with\* several new theorems, which we then specially deduced as bearing upon the subject. *In Section 4 will be found the practical application of these principles to the circumstances of Industrial Associations; and in Chapter 2 of Part I., a popular statement of their leading features.*

### SECTION I.

*On the Accumulation of a Single Sum at Compound Interest.*

ART. 1.—To find the amount  $Z$  to which a sum  $P$  will accumulate in  $n$  years at compound *yearly* interest  $i$  per pound.

Since  $i$  is the interest on £1 for one year, or

$P \cdot i$  „ „  $£P$  for the same time.

∴ The amount of  $P$  with interest in one year is  $P \cdot (1 + i)$ .

Again, the amount of  $P$  with interest in *two* years will, of course, be equal to its amount, at the end of *one* year, re-invested for a second year; or, to the amount of  $P \cdot (1 + i)$  with interest in one year; that is, it will be equal to

$$\begin{aligned} & P \cdot (1 + i) + i \cdot P \cdot (1 + i) \\ &= P \cdot (1 + i)^2 \end{aligned}$$

Similarly the amount of  $P$  with interest in three years is

$$= P \cdot (1 + i)^3$$

and so on for  $n$  years, where  $n$  is any *integer*,

$$\therefore Z = P \cdot (1 + i)^n \dots\dots\dots (1).$$

In the above the time is expressed in years, but, from the nature of the

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\* [The theorems and articles marked thus † have a special relation to each other.]

reasoning, equation (1) will represent the amount of  $P$  at the end of an *integral* number of any intervals of time, at the end of each of which interest is due after the rate of  $i$  per pound.

REMARK.—The amount of a given sum, at the end of any number of periods of time, does not depend on the *length* of time in each period, but only on the *number* of them, and the quantity of interest due or payable at the end of each.

2.—The equation (1) is, in strictness, not applicable when  $n$  is a fractional number of the form  $n_1 = n + \frac{a}{b}$ , where  $n_1$  is an integer and  $\frac{a}{b}$  a fraction of a year, as the interest was supposed only due at the *end* of successive equal intervals of time, and, theoretically speaking, no allowance of interest can be made for the broken portion  $\frac{a}{b}$ , consequently, this hypothesis must always be remembered, and if results be deduced from equation (1) relative to  $n$ ,  $n$  must always prove to be a whole number (see Art. 11). In commercial questions, nevertheless, it is usual in such cases to calculate by equation (1) the amount due at the expiration of the last full period, and to add to it simple interest for the fractional remainder of the time; so that

$$\begin{aligned} &\text{The amount of } P \text{ in } \left(n + \frac{a}{b}\right) \text{ years} \\ &= \text{amount of } P \text{ in } n_1 \text{ years} + \text{simple interest on that amount for} \\ &\quad \text{the portion } \frac{a}{b} \text{ of a year.} \\ &= P \cdot (1 + i)^{n_1} + \frac{a \cdot i}{b} \times P \cdot (1 + i)^{n_1} \\ &= P \cdot (1 + i)^{n_1} \cdot \left(1 + \frac{a \cdot i}{b}\right) \dots\dots\dots (2). \end{aligned}$$

3.—If the interest be due, in equal instalments  $\frac{i}{m}$ , at the end of each interval of time equal to the  $m$ th part of a year, the amount at the end of  $m \cdot n$  intervals will be

$$Z = P \cdot \left(1 + \frac{i}{m}\right)^{m \cdot n} \dots\dots\dots (3).$$

This result can be adapted to the case of interest being paid, or due, half-yearly, quarterly, or monthly, by making  $m = 2, 4, \text{ or } 12$  respectively.

4.—If the interest be supposed due momentarily, or at the end of each moment of time, in equal portions  $\frac{i}{m}$ ,  $m$  being infinitely large, then the result in equation (3) assumes a peculiar form.

For, expanding by the Binomial Theorem,

$$\begin{aligned} Z &= P \cdot \left\{ 1 + \frac{m \cdot n}{1} \cdot \frac{i}{m} + \frac{m \cdot n \cdot (m \cdot n - 1)}{1 \cdot 2} \cdot \frac{i^2}{m^2} + \dots \text{etc.} \right\} \\ &= P \cdot \left\{ 1 + \frac{n \cdot i}{1} + \frac{n \cdot i \cdot (n \cdot i - \frac{i}{m})}{1 \cdot 2} + \text{etc.} \right\} \\ &= P \cdot \left\{ 1 + \frac{n \cdot i}{1} + \frac{(n \cdot i)^2}{1 \cdot 2} + \dots \right\}, \text{ since the terms containing } \frac{i}{m}, \frac{i^2}{m^2}, \text{ vanish when } m \text{ is infinite.} \end{aligned}$$

$$\therefore Z = P \cdot e^{ni} \dots \dots \dots (4).$$

$e$  being the base of the Napierian or Hyperbolic logarithms, and  $= 2.71828$ , etc., nearly. (See any Treatise on Algebra.)

To this equation we will return further on.

5.—Since  $(1+i)^n$  can be put under the form  $(1+i)^{n_1} \cdot (1+i)^{n_2}$  where  $n_1 + n_2 = n$ , we have *Theorem 1*:—*That the amount of £1 at the end of  $n$  years by the accumulation of Compound Interest is equal to the product of its amounts at the end of  $n_1$  and  $n_2$  years respectively.*

This property serves to make Table 4 give results, which are not contained within its limits.

*Example.*—Let  $n = 60$ .

The last number in the table is 50, let  $n_1 = 50$ , then  $n_2 = 10$

And the *amount* at the end of 60 years  $= £11.4674 \times £1.6288$  at 5 per cent.  
 $= £18.6781$ .

Similarly, if  $n = n_1 + n_2 + \dots + n_r$

$$(1+i)^n = (1+i)^{n_1} \cdot (1+i)^{n_2} \dots (1+i)^{n_r}$$

6.—From the preceding expressions it is seen that:

*When interest is payable more frequently than once a year, there is a difference between the nominal annual rate of interest, and the true rate or actual annual interest realized.*

For if  $i$  = the *nominal* yearly rate of interest per pound, and it be payable in  $m$  periodic equal portions  $\frac{i}{m}$  in the course of a year, then supposing each instalment to be invested and to bear interest after the same nominal rate,

The *true* rate = the amount of £1 at the end of one year — £1.

$$= \left( 1 + \frac{i}{m} \right)^m - 1 \dots \dots \dots (5).$$



If the interest be realized momentarily, then

The *true* rate of interest becomes  $= e^i - 1 \dots \dots \dots (6)$ .

Hence a table may be formed showing the *true* rate per pound for various values of  $m$ .

If  $m = 2$ , the true rate for interest paid *half-yearly*

$$= \left(1 + \frac{i}{2}\right)^2 - 1 = i + \frac{i^2}{4}$$

$m = 4$ , the true rate for interest paid *quarterly*

$$= \left(1 + \frac{i}{4}\right)^4 - 1 = i + \frac{3}{8}i^2 + \frac{i^3}{16} \text{ nearly.}$$

$m = 12$ , the true rate for interest paid *monthly*,

$$= \left(1 + \frac{i}{12}\right)^{12} - 1 = i + \frac{11}{24}i^2 + \frac{55}{432}i^3 \text{ nearly.}$$

$m = 52$ , the true rate for interest paid *weekly*

$$= \left(1 + \frac{i}{52}\right)^{52} - 1 = i + \frac{51}{104}i^2 + \frac{425}{2704}i^3 \text{ nearly.}$$

$m = \infty$ , the true rate for *momentaneous* interest,

$$= e^i - 1 = i + \frac{i^2}{2} + \frac{i^3}{6} \text{ nearly.}$$

The two last results show that the weekly and momentaneous rates of interest differ but little.

Table 5 has been computed from the above formulæ by giving to  $i$  different values for successive rates of interest, and it is accurate to three places of decimals.

7.—In equation (6) let  $k = e^i - 1$ .

Taking Hyperbolic logarithms,

$$i = \text{Log}_e (1 + k) \dots \dots \dots (7).$$

And this equation gives the nominal annual rate of interest  $i$ , realized momentarily, which corresponds to a *yearly* rate of interest  $k$ .

Example: Let  $k = \frac{5}{100}$

$$\therefore i = \text{Log}_e (1.05) = .04879$$

or £4.879 per cent. per annum momentaneous interest is equivalent to 5 per cent. per annum paid yearly. (See Table 6.)

8.—If the *amount*  $Z$  of a sum  $P$  at the end of  $n$  years be given by the tables at *yearly* interest, the amount  $Z_1$  can be deduced when interest is payable  $m$  times a year.

$$\text{For } Z_1 = P \cdot \left\{1 + \frac{i}{m}\right\}^{m \cdot n} = P \cdot (1 + i)^n \cdot \left\{\frac{\left(1 + \frac{i}{m}\right)^m}{1 + i}\right\}^n$$

$$\begin{aligned}
&= Z \cdot \left\{ \frac{1 + m \cdot \frac{i}{m} + \frac{m(m-1)}{1 \cdot 2} \cdot \frac{i^2}{m^2} + \text{etc.}}{1 + i} \right\}^n \\
&= Z \cdot \left\{ \frac{1 + i + \frac{1 \cdot \left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 + \text{etc.}}{1 + i} \right\}^n \\
&= Z \cdot \left\{ 1 + \frac{\left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 + \text{etc.} \right\}^n \text{ nearly, and neglecting the higher}
\end{aligned}$$

powers of  $i$ , which, as  $i$  is a decimal fraction of the order  $\frac{1}{10^2}$ , may be done when  $n$  is not very large, we have

$$Z_1 = Z \cdot \left\{ 1 + \frac{n \left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 \right\} \text{ nearly} \dots\dots\dots (1).$$

REMARK. The preceding equations contain all the formulæ necessary for the determination of any question, connected with the accumulation of a *single* sum from compound interest. Several results can be deduced from them, which are worthy of notice.

It is seen that the hypothesis of momentaneous interest considered in equation (4) introduces the base of the Napierian or Hyperbolic logarithms, which possesses many important properties. Although that hypothesis is not generally used, yet it gives rise to various theorems, which can be adapted with sufficient exactness to the actual conditions of practice.

9.—Equation (4) gives  $Z = P \cdot e^{ni}$ ,  $\therefore$  taking logarithms and denoting a before by  $\text{Log}_e$  the logarithm to the base  $e$ , we have

$$\begin{aligned}
n \cdot i &= \text{Log}_e \left( \frac{Z}{P} \right) \dots\dots\dots (1). \\
&= \text{a constant :}
\end{aligned}$$

or, supposing interest realized momentaneously, † *Theorem 2* arises:—*The product of the nominal yearly rate by the number of years, in which a sum P will amount to Z, is constant, or the same whatever be the rate of interest :* in other words, *If P amount to Z in  $N_1$  years at  $i_1$  per pound interest, then P would amount to Z in  $\frac{N_1 \cdot i_1}{i_2}$  years at  $i_2$  rate of interest, or in  $q \cdot N$  years at  $\frac{i}{q}$  rate of interest.*

Example: By Table 7, £1 will amount to £7·38906 in 50 years at 4 per cent. momentaneous rate of interest. Hence, £1 ought, by this theorem,

to amount to the same sum in  $\frac{50 \times .04}{.08}$  years, or 25 years, at 8 per cent. momentaneous rate; which is also shown by Table 7 to be the case.

10.—Let  $Z = f \cdot P$  in equation (1), Art. 9,  $\therefore n_f \cdot i = \text{Log}_e f$

$$\therefore n_f = \frac{\text{Log}_e f}{i} \dots\dots\dots (2).$$

or, †Theorem 3 :—*The number of years, in which, by the accumulation of momentaneous interest, a sum will become  $f$ -fold its original value, is equal to the  $\text{Log}_e f$  divided by the nominal yearly rate per pound.*

$$\begin{aligned} \text{If } f = 2, \quad n_2 &= \frac{\text{Log}_e 2}{i} \\ &= \frac{.693147}{i} \dots\dots\dots (3). \end{aligned}$$

See the extract from Tables of Hyperbolic Logarithms contained in Table 16.

$$\begin{aligned} \text{If } f = 3, \quad n_3 &= \frac{\text{Log}_e 3}{i} \\ &= \frac{1.098612}{i} \dots\dots\dots (4). \end{aligned}$$

And so on for other values of  $f$ .

If for  $i$  we put  $\frac{I}{100}$ ,  $I$  being the interest per cent., we have,

from eq<sup>n</sup> (3). *The number of years in which money will become doubled at  $I$  per cent. rate of interest realized momentaneously is equal to  $69 \cdot 3147$ , divided by the rate of interest  $I$ .*

from eq<sup>n</sup> (4). *The number of years in which money will become trebled is equal to  $109 \cdot 8612$ , divided by the rate of interest.*

11.—*Respecting the Time of doubling at yearly interest.*

If in Equation (1), Art. 1, or  $Z = P(1 + i)^n \dots\dots\dots (1)$

we suppose  $Z = 2P$ , then  $2 = (1 + i)^n \dots\dots\dots (2)$

which shows that  $n$  cannot be an integer, as  $(1 + i)$  is a fraction. But, as we have stated before, Art. 1, equation (1) can only be applied when  $n$  is an integer, hence it will not serve to determine the time of doubling when interest is paid *yearly*; nor can any equation do so, as, theoretically speaking, there can be no time of doubling for interest expressed by a commensurable fraction, and paid at the *end* of finite intervals.

Most writers have overlooked this consideration, and have erroneously given the values of  $n$  deduced from  $n = \frac{\text{Log}_e 2}{\text{Log}_e (1 + i)}$  for various values of  $i$ , as being the corresponding times of doubling at yearly interest (see Table 8). This



amounts to supposing the money to accumulate *continuously* by a compound momentaneous interest  $\text{Log}_e(1+i)$  throughout the whole time, in which on such an hypothesis it would double, instead of increasing as it does per saltum at the end of each year; or that the expressions  $(1+i)^n = 2$  and  $e^{n \text{Log}_e(1+i)} = 2$ , which represent different hypotheses, are interchangeable.

The results thus obtained are therefore of no mathematical value, although they differ but little from those that might be deduced from the *commercial* view of the question, see Equation (2), Art. 3, which supposes a proportionate amount of the *yearly* rate of interest to be paid, when there is a fractional number of days over.

12.—When interest is payable  $m$  times a year, Equation (3) Art. 4 gives

$$Z = P \left( 1 + \frac{i}{m} \right)^{m \cdot n}, \text{ where } m \cdot n \text{ is an integer.}$$

$$\therefore \text{Log}_e \frac{Z}{P} = m \cdot n \cdot \text{Log}_e \left( 1 + \frac{i}{m} \right)$$

$$\text{Let } Z = f \cdot P$$

then we may still assume the equation to hold approximately, whether  $m \cdot n$  remain an integer or not, provided the intervals of conversion of interest be frequent.

$$\begin{aligned} \therefore m \cdot n_f &= \frac{\text{Log}_e f}{\text{Log}_e \left( 1 + \frac{i}{m} \right)} \dots\dots\dots (1). \\ &= * \text{Log}_e f \cdot \left\{ \frac{1}{\left( \frac{i}{m} \right)} + \frac{1}{2} - \frac{i}{12m} + \frac{i^2}{24m^2} - \text{etc.} \right\} \end{aligned}$$

\* [The reciprocal of  $\text{Log}_e(1+x)$  can in general be expanded in a series by the following method:—

$$\begin{aligned} \text{Let } \frac{x}{\text{Log}_e(1+x)} &= a_0 + a_1 x + a_2 x^2 + \dots\dots\dots + a_r x^r + \text{etc.} \\ \therefore x &= \left\{ a_0 + a_1 x + a_2 x^2 + \dots\dots \right\} \cdot \text{Log}_e(1+x) \\ &= \left\{ a_0 + a_1 \cdot x + a_2 x^2 + \dots\dots \right\} \cdot \left\{ x - \frac{x^2}{2} + \frac{x^3}{3} - \text{etc.} \right\} \\ &= a_0 x + a_1 \left| \begin{array}{l} x^2 + a_2 \\ - \frac{a_0}{2} \end{array} \right| \cdot x^2 + a_2 \left| \begin{array}{l} x^3 + \dots\dots + a_r \\ - \frac{a_1}{2} \end{array} \right| \cdot x^3 + \dots\dots + a_r \left| \begin{array}{l} x^{r+1} + \text{etc.} \\ - \frac{a_{r-1}}{2} \end{array} \right| \cdot x^{r+1} + \text{etc.} \\ &\quad + \frac{a_0}{3} \left| \begin{array}{l} \vdots \\ + \frac{a_r - 2}{3} \end{array} \right| \cdot x^4 + \dots\dots + \frac{(-1)^r a_0}{r+1} \left| \begin{array}{l} \vdots \\ + \frac{a_r - 2}{r+1} \end{array} \right| \cdot x^{r+2} + \text{etc.} \end{aligned}$$

And when  $f$  is not very large we have with sufficient approximation, †*Theorem 4*:—*The number of finite intervals of time (each equal to the  $m^{\text{th}}$  part of a year), at the end of which money will accumulate to  $f$ -fold its original value, is*

$$= \frac{\text{Log}_e f}{\left(\frac{i}{m}\right)} + \frac{\text{Log}_e f}{2}$$

$$= \frac{\text{Log}_e f}{\text{rate of interest per pound in each interval}} + \frac{\text{Log}_e f}{2} \text{ nearly. . . . . (2)}$$

since  $i$  is a decimal of the 2d order, and the higher powers of  $\frac{i}{m}$  may be neglected.

13.—Let  $f = 2$  then  $\text{Log}_e 2 = .693147$

∴ The number of intervals of  
time (equal to  $m^{\text{th}}$  part of a  
year) at the end of which  
money will double  $= \frac{.693147}{\left(\frac{i}{m}\right)} + .3465$

$$= \frac{69.3147}{\text{rate of interest per cent. in each interval.}} + .3465 \text{ nearly. . . . (3)}$$

Whence  $a_0 = 1, a_1 = \frac{1}{2}, a_2 = \frac{1}{4} - \frac{1}{3} = -\frac{1}{12}, a_3 = \frac{1}{24}, a_4 = -\frac{19}{720},$

and generally  $a_r$  is given by the equation

$$a_r - \frac{a_{r-1}}{2} + \frac{a_{r-2}}{3} - \dots + \frac{(-1)^r}{r+1} = 0 \dots\dots\dots (1).$$

$$\therefore \frac{x}{\text{Log}_e(1+x)} = 1 + \frac{x}{2} - \frac{x^2}{12} + \frac{x^3}{24} - \frac{19x^4}{720} + \text{etc.}$$

$$\text{Whence } \frac{1}{\text{Log}_e(1+x)} = \frac{1}{x} + \frac{1}{2} - \frac{x}{12} + \frac{x^2}{24} - \frac{19x^3}{720} + \text{etc.} \dots\dots\dots (2).$$

When  $x$  is a fraction, as in the case of  $x = i$  the rate of interest per pound, then the series converges rapidly.

Also if we substitute  $\frac{1}{y}$  for  $x$

$$\frac{1}{\text{Log}_e\left(1 + \frac{1}{y}\right)} = y + \frac{1}{2} - \frac{1}{12y} + \frac{1}{24y^2} - \frac{19}{720y^3} + \text{etc.} \dots\dots\dots (3).$$

the formula given in the text and which we shall have occasion to make use of hereafter (*vide* note to Art. 16).

It will be noticed, by such of our readers as are familiar with the higher branches of analysis, that the coefficient  $a_r$ , as determined from equation (1), is equal to the value of the definite integral

$$\int_0^1 (-1)^{r-1} \frac{z(1-z)(2-z)\dots\dots(r-1-z) dz}{1 \cdot 2 \cdot 3 \dots\dots r}$$

where  $z$  is integrated between the limits  $z = 0$ , and  $z = 1$ .]

14.—The results in Table 8, and Equation 3, show that, generally, as regards the *integral* part of the time of doubling, we may assume for the sake of memory, †Theorem 5, that the

$$\text{Time of doubling} = \frac{70}{\text{rate of interest per cent.}} \text{ nearly,}$$

70 being the whole number next above 69·3147.

Or, “*The number of years in which money will double itself at compound interest is, in round numbers, equal to that whole number, which is nearest to the quotient obtained on dividing 70 by the rate of interest per cent.*”

When  $i$  is greater than ·10, a higher dividend than 70 must be taken. In the generality of commercial operations, however, interest does not exceed 10 per cent., and this approximate rule will suffice for all practical purposes.

15.—In simple interest there is a corresponding property. If  $N$  = number of years in which a sum  $P$  will double itself at simple interest  $I$  per cent.

$$\begin{aligned} P + N \cdot \frac{I \cdot P}{100} &= 2P \\ \therefore N \cdot I &= 100 \\ \therefore N &= \frac{100}{I}. \end{aligned}$$

#### 16.—On the Successive Stages of Accumulation of Capital.

In Art. 12 we have deduced eq<sup>n</sup> (2) a simple expression for the value of  $n_f$ , or the aggregate number of years that are required to make a single capital become  $f$ -fold its original magnitude; and Art. 14 affords an easy rule for memory when  $f = 2$ ; we will now proceed to deduce an approximate relation between the additional number of years, or multiples of equal intervals of time, which are required to make a single capital  $P$  pass through the successive stages of accumulation, by compound interest, from 1-fold to 2-fold, from 2-fold to 3-fold, . . . . from  $f$ -fold to  $(f + 1)$ -fold.

And for this purpose let  $\phi_i^{a_r}$  represent generally the process of accumulation, at interest (yearly, monthly, or momentaneous), by which the capital  $P$  passes from  $r$ -fold to  $(r + 1)$ -fold, we have

$$2 \cdot P = P \cdot \phi_i^{a_1} \quad \therefore a_1 \cdot \text{Log}_e \phi_i = \text{Log}_e 2$$

$$3 \cdot P = 2 \cdot P \cdot \phi_i^{a_2} \quad \therefore a_2 \cdot \text{Log}_e \phi_i = \text{Log}_e \frac{3}{2}$$

$$\begin{array}{ccc} \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \end{array}$$

$$(f + 1) \cdot P = f \cdot P \cdot \phi_i^{a_f} \therefore a_f \cdot \text{Log}_e \phi_i = \text{Log}_e \left( 1 + \frac{1}{f} \right)$$



or the quantities  $a_1, a_2 \dots$  are to each other in the ratios of the logarithms  $\text{Log}_e \frac{2}{1}, \text{Log}_e \frac{3}{2}, \dots \text{Log}_e \left(1 + \frac{1}{f}\right)$  respectively.

Hence the *Rates of Velocity* of arithmetical augmentation of capital are in the *inverse* ratios of those logarithms; or,

†*Theorem 6*:—*If the specific velocity of doubling be represented by unity, the relative velocities of attaining successive units of capital would be represented by*

$$1, \frac{\text{Log}_e 2}{\text{Log}_e \frac{3}{2}}, \frac{\text{Log}_e 2}{\text{Log}_e \frac{4}{3}}, \dots \frac{\text{Log}_e 2}{\text{Log}_e \left(1 + \frac{1}{f}\right)},$$

or by the logarithms of the number 2 taken to the successive bases  $\frac{3}{2}, \frac{4}{3}, \dots \left(1 + \frac{1}{f}\right)$ , or,\* very nearly by

$$1, 1.70, 2.40, 3.10, 3.80, \text{etc.}$$

which are the terms of an arithmetic progression of which the common difference is .70, a number which has already been used in Art. 14. (See forward, Section 4.)

## SECTION II.

### *Of Present Value and Discount.*

Art. 17.—When money is calculated at compound interest, the present value, or sum to be given at present, instead of a payment due at the end of a certain number of years, must be such that, if laid out at interest for that time, it would become equal to the amount due. The problem of determining

\* [These terms are obtained thus: by note to Art. 12

$$\frac{\text{Log}_e 2}{\text{Log}_e \left(1 + \frac{1}{f}\right)} = .69315 \left\{ f + \frac{1}{2} - \frac{1}{12f} + \frac{1}{24f^2} - \text{etc.} \right\}$$

$$= \left\{ \left[ 1 + (f-1) \times .70 \right] - \left[ f \times .00685 - .04657 - \frac{.69315}{12f} \right] + \text{etc.} \right\}$$

$$= \left\{ 1 + (f-1) \times .70 \right\} \text{ nearly } \dots \dots \dots (1).$$

Unless  $f$  is very large, this formula gives a degree of approximation sufficiently accurate for the determination of *ratios*, and will nearly agree with the results derivable from the exact

formula  $\frac{\text{Log}_e 2}{\text{Log}_e \left(1 + \frac{1}{f}\right)}$ . The approximate results are in deficit, while  $f$  does not exceed 5,

and in excess for subsequent values.]

the *present value* is consequently the inverse of finding the *amount*, to which a sum of money would accumulate at compound interest. The principles adduced in Section I. will apply here.

The discount on a given sum is the difference between its amount at the future time when it will be due and its present value.

Let  $P$  = the present value,

$Z$  = the sum due at the end of  $n$  years (called the amount in Section I.)

$i$  = the yearly rate of interest per pound,

$d$  = the value of  $i$  if discounted or treated as due each year in advance,

$$= \frac{i}{1+i}$$

then  $P$  invested at compound interest  $i$  for  $n$  years must become equal to  $Z$ ,  $\therefore$  by Art. 1,

$$Z = P \cdot (1+i)^n$$

$$\therefore P = Z \cdot (1+i)^{-n} \dots \dots \dots (1).$$

where  $n$  is an integer.

And if  $D$  = the discount,

$$D = Z - P$$

$$= Z \cdot \{1 - (1+i)^{-n}\} \dots \dots \dots (2).$$

If the value of  $D$  be expanded by the Binomial Theorem,

$$D = Z \cdot \left\{ 1 - \left[ 1 - n \cdot i + \frac{n(n+1)}{1 \cdot 2} \cdot i^2 - \text{etc.} \dots \right] \right\}$$

$$= Z \cdot n \cdot i - \text{etc.}$$

showing that the common rule in practice of taking  $D = Z \cdot n \cdot i$  is found by neglecting the other terms of the series.

If  $n$  be not a whole number, then equation (2) Art. 2, must be used.

$$18.—\text{Since } P = \frac{Z}{(1+i)^n}$$

if we have a table showing the amount  $(1+i)^n$  to which £1 will accumulate in  $n$  years at compound interest, the present value of any sum  $Z$  due in  $n$  years will be equal to the quotient of  $Z$  divided by  $(1+i)^n$ .

Example: To find the present value of £30 due at the end of 5 years, supposing interest to be compound at 3 per cent. :—

Now Table 4 shows that the amount of £1 in 5 years at 3 per cent. is £1.1592.

$$\therefore \text{the present value of } £30 = \frac{30}{1.1592} = £25.8799 \dots$$

19.—If the interest, instead of being supposed payable only *once* a year, be payable, in  $m$  equal portions  $\frac{i}{m}$ ,  $m$  times a year; then, as before,

$$Z = P \cdot \left(1 + \frac{i}{m}\right)^{m \cdot n}$$

$$\therefore P = Z \cdot \left(1 + \frac{i}{m}\right)^{-m \cdot n} \dots \dots \dots (3).$$

$$D = Z \cdot \left\{1 - \left(1 + \frac{i}{m}\right)^{-m \cdot n}\right\} \dots \dots \dots (4).$$

20.—If the interest be realized momentarily or  $m = \infty$ , then, by Art. 4,

$$Z = P \cdot e^{n \cdot i}$$

$$\therefore P = Z e^{-n \cdot i} \dots \dots \dots (5).$$

$$D = Z \cdot (1 - e^{-n \cdot i}) \dots \dots \dots (6).$$

REMARK.—It will be observed, that the problems connected with *present values* differ from those relating to the *amount* of money by the introduction of  $-n$  for  $+n$ .

$$21.—\text{Since } (1+i)^{-n} = (1+i)^{-n_1} (1+i)^{-n_2}$$

where  $n = n_1 + n_2$ , we have for present values a property corresponding to Theorem 1, Art. (5).

*Theorem 7:—The present value of £1, due at the end of  $n$  years, is equal to the product of the present values of £1 due at the end of  $n_1$  and  $n_2$  years respectively.*

Similarly where  $n = n_1 + n_2 + n_3 + \text{etc.}$

22.—From equation (3), Art. 19, it is obvious that

*The present value is diminished by increasing the frequency of the intervals, in each year, at which the interest is supposed payable.*

23.—If the present value  $P$  of a sum  $Z$  due  $n$  years hence be given by the tables, supposing interest payable *once* a year, the present value  $P_1$  can be deduced when interest is payable  $m$  times a year.

$$\text{For } P_1 = Z \cdot \left(1 + \frac{i}{m}\right)^{-m \cdot n} = Z \cdot (1+i)^{-n} \cdot \left\{\frac{\left(1 + \frac{i}{m}\right)^m}{1+i}\right\}^{-n} \dots \dots (1).$$



$$\begin{aligned}
 &= P \cdot \left\{ \frac{1 + m \cdot \frac{i}{m} + \frac{m \cdot (m-1)}{1 \cdot 2} \cdot \frac{i^2}{m^2} + \text{etc.} \dots}{1 + i} \right\}^{-n} \\
 &= P \cdot \left\{ \frac{1 + i + \frac{1 \cdot \left(1 - \frac{1}{m}\right) \cdot i^2}{1 \cdot 2} + \text{etc.} \dots}{1 + i} \right\}^{-n} \\
 &= P \cdot \left\{ 1 + \frac{\left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 \right\}^{-n} \text{ nearly, whence neglecting all powers}
 \end{aligned}$$

of  $i$  above the second, which ( $i$  being a decimal fraction of the order  $\frac{1}{10^2}$ ) may be done provided  $n$  be not very large.

$$P_1 = P \cdot \left\{ 1 - n \cdot \frac{\left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 \right\} \text{ nearly} \dots \dots \dots (2).$$

Example: Table 9 shows that, when interest is payable yearly, the present value  $P$  of £10 due 4 years hence at 5 per cent. is = 8·227.

If interest be payable half-yearly, or  $m = 2$ , then from Equation (2)

$$\begin{aligned}
 n \cdot \frac{\left(1 - \frac{1}{m}\right)}{1 \cdot 2} \cdot i^2 &= 4 \cdot \frac{\left(1 - \frac{1}{2}\right)}{2} \times (.05)^2 \\
 &= .0025 \\
 \therefore P_1 &= 8 \cdot 227 (1 - .0025) \\
 &= 8 \cdot 227 \times .9975 = 8 \cdot 2064.
 \end{aligned}$$

24.—Respecting the difference between the *present values* of the same sum  $Z$  due at the end of  $n$  years, according as it is calculated at compound interest  $i_1$  per pound or  $i_2$  per pound; or on *the mode of ascertaining the surplus profit in discounting bills, or shares, payable at a long date* :—

Let  $P_{i_1}$  = present value at the rate of interest  $i_1$

$P_{i_2}$  = ..... do. ....  $i_2$

If interest be realized only *once* a year,

$$\begin{aligned}
 P_{i_1} - P_{i_2} &= Z \cdot (1 + i_1)^{-n} - Z \cdot (1 + i_2)^{-n} \\
 &= Z \cdot \{(1 + i_1)^{-n} - (1 + i_2)^{-n}\} \dots \dots \dots (1).
 \end{aligned}$$

If interest be realized  $m$  times a year,

$$P_{i_1} - P_{i_2} = Z \cdot \left\{ \left(1 + \frac{i_1}{m}\right)^{-m \cdot n} - \left(1 + \frac{i_2}{m}\right)^{-m \cdot n} \right\} \dots \dots \dots (2).$$

If interest be realized *momently*,

$$P_{i_1} - P_{i_2} = Z \cdot \left\{ e^{-n \cdot i_1} - e^{-n \cdot i_2} \right\} \dots \dots \dots (3).$$

From these equations we have *Theorem 8*:—*That the difference between the present values of a sum of money Z due in n years, estimated at different rates of interest, increases up to a certain point with the value n of and then diminishes.*

For example, if one person A obtain a present loan  $P_{i_1}$  from another person B, in return for which he is to pay Z at the end of a years; and A, out of the money he has received, lend a sum  $P_{i_2}$  to a third party C, for which at the end of the n years he is also to receive Z, which will enable him to pay off his debt to B, then there is some value of n, such that the immediate profit derived by A is greatest if  $i_2$  be greater than  $i_1$ . (*Vide Sect. 4.*)

[NOTE to Art. 24.—*When the interests are momentaneous, or the expression is a continuous function of the variable n, the maximum value can be determined at once by differentiation.*

Taking equation (3), let

$$u = \left\{ e^{-n i_1} - e^{-n i_2} \right\} = \text{a maximum.}$$

$i_1$  being less than  $i_2$ .

Differentiating with regard to  $u$ , we get by the property of *maxima et minima*: (see any Treatise on the Differential Calculus),

$$\begin{aligned} \frac{du}{dn} &= -e^{-n i_1} \cdot i_1 + e^{-n i_2} \cdot i_2 = 0 \\ \therefore \frac{e^{-n i_1}}{e^{-n i_2}} &= \frac{i_2}{i_1} \\ \therefore e^{n(i_2 - i_1)} &= \frac{i_2}{i_1} \\ n \cdot (i_2 - i_1) &= \text{Log}_e i_2 - \text{Log}_e i_1 \\ n &= \frac{\text{Log}_e i_2 - \text{Log}_e i_1}{i_2 - i_1} \dots \dots \dots (4). \end{aligned}$$

To determine whether this result gives a maximum or minimum, we must differentiate a second time:

$$\begin{aligned} \therefore \frac{d^2 u}{dn^2} &= e^{-n i_1} \cdot i_1^2 - e^{-n i_2} \cdot i_2^2 \\ &= -e^{-n i_2} \cdot i_2^2 \left\{ 1 - e^{n(i_2 - i_1)} \cdot \frac{i_1^2}{i_2^2} \right\} \\ &= -e^{-n i_2} \cdot i_2^2 \left\{ 1 - \frac{i_2}{i_1} \cdot \frac{i_1^2}{i_2^2} \right\} \end{aligned}$$

(by substituting in the bracket  $\frac{i_2}{i_1}$  for  $e^{n \cdot (i_2 - i_1)}$ , as found above.)

$$= -e^{-n i_2} \cdot i_2 \left\{ i_2 - i_1 \right\},$$

which is *negative*, since  $i_1$  was assumed to be less than  $i_2$ ;

$\therefore$  the value of  $n$  in equation (4) gives the number of years, for which the difference of the present values is a maximum.

Example: Let  $i_1 = .05$        $i_2 = .06$ .

$$\begin{aligned} n &= \frac{\text{Log}_e 6 - \text{Log}_e 5}{\frac{6 - 5}{100}} \\ &= 100 (\text{Log}_e 6 - \text{Log}_e 5) \\ &= 100 (1.791759 - 1.609438) \text{ see Table 16} \\ &= 18.2321 \text{ years,} \end{aligned}$$

That is to say, the difference, between the present values of the same sums discounted respectively at 5 and 6 per cent. momentaneous interest, is greatest, when they are due at the end of 18.2321 years.

The above process will not serve for *yearly* interest, as the function of  $n$  varies by *finite* yearly increments in the value of  $n$ , and Differentiation does not apply. The very definition of a differential co-efficient has, by a strange oversight, been overlooked by several skilful writers on Interest, who have, probably through want of consideration, applied the differential calculus. But the time may be deduced indirectly from equation (4) by substituting, for the *yearly* interest, the equivalent momentaneous rate.]

### SECTION III.

#### *On Annuities.*

ART. 25.—To find the *amount* of a yearly annuity of £1, payable for  $n$  years, supposing compound yearly interest at  $i$  per pound.

Unless the contrary be mentioned, annuities are supposed payable at the *end* of each year; and on this hypothesis tables are usually constructed. It will hereafter be shown how such tables can be adapted to find the *amount* or *present value* of annuities payable at the *beginning* of each year or otherwise.

The reason for the analytical investigations in this section, proceeding on the supposition of the annuities being payable at the *end* of each year, or other interval of time, consists in the simplicity attending the reference of annuities to that Sum, which would purchase them, or to that of which the annuity is the Interest; as, in either case, whether it be purchased, or payable as interest, each instalment is due at the *end* of each year.

Let  $\Sigma_n$  be the symbol of the *amount* of an annuity of £1 for  $n$  years.

The expression can at once be found from that of the amount of a *single* sum £1. Art. 1.

For  $(1 + i)^n$  = the *amount* of a single sum £1 with yearly interest  $i$  per pound in  $n$  years.

= the £1 + amount of an annuity of £  $i$  a year

=  $1 + i \cdot \Sigma_n$

$$\therefore \Sigma_n = \frac{(1 + i)^n - 1}{i} \dots \dots \dots (1).$$



So that an Annuity Table can be calculated at once from a table, which gives the accumulation of a single sum and its compound interest for any time. (*Vide Table 4.*)

$$\begin{aligned}
 26. \text{—Since } \Sigma_{n+1} &= \frac{(1+i)^{n+1} - 1}{i} \\
 &= \frac{(1+i)^n - 1}{i} + (1+i)^n \\
 &= \Sigma_n + (1+i)^n \\
 \therefore \Sigma_{n+1} - \Sigma_n &= (1+i)^n \dots\dots\dots (2). \\
 &= \text{Amount of a single sum at interest in } n \text{ years.}
 \end{aligned}$$

Hence, inversely, †Theorem 9:—

*A table of the amount of a single sum can be deduced at once, if required, by taking the first differences of an Annuity Table.*

27.—To find the *present value* of a yearly annuity of £1 for  $n$  years, payable at the *end* of each year.

Let  $\Phi_n$  = present value required.

By a simple demonstration, as in Art. 25, since the present value of £1 due in  $n$  years =  $(1+i)^{-n}$

The present value of the periodic instalments of *interest*  $i$  on the £1\* must alone =  $1 - (1+i)^{-n}$

(Since the diminution of value is produced by the interest deducted.)

∴ Dividing both sides by  $i$

$$\Phi_n = \text{the present value of an annuity of } \pounds 1 = \frac{1 - (1+i)^{-n}}{i} \dots (3)$$

And an *annuity* table of present values can be deduced at once from a given table of the present value of *single* sums.

28.—*Aliter* the present value of an annuity for  $n$  years is equal to the *amount* of the annuity at the end of  $n$  years discounted for that time.

$$\begin{aligned}
 \therefore \Phi_n &= \frac{\Sigma_n}{(1+i)^n} \\
 &= \frac{1}{(1+i)^n} \cdot \left\{ \frac{(1+i)^{n+1} - 1}{i} \right\} \quad (\text{By Art. 25.})
 \end{aligned}$$

$$\therefore \Phi_n = \frac{1 - (1+i)^{-n}}{i}, \text{ as before.}$$

$$* \text{ OR } \frac{1}{\Phi_n} - \frac{1}{\Sigma_n} = i \dots\dots\dots (4).$$

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\* [This equation presents a property, that may be made of great practical service, in deducing, without reference to tables, the *present value* of an annuity when the *amount* is known, or the converse. The operation can be performed with great facility by means of a table of the reciprocals of natural numbers. See also Section 4.]

Hence †Theorem 10.—*The difference between the Reciprocals of the present value and amount of an annuity of £1 is equal to the rate of interest allowed per pound.*

Example: The *present value* of an annuity of £11·72 a year for 10 years, at 3 per cent., is £100; then, if the *amount* were desired to be known at the end of 10 years, eq<sup>n</sup> (4) would give it at once equal to  $11·464 \times 11·72 = 134·36$ .

Again, eq<sup>n</sup> (4) gives

$$\frac{1}{\Phi_{n-1}} - \frac{1}{\Phi_n} = \frac{1}{\Sigma_{n-1}} - \frac{1}{\Sigma_n} \dots\dots\dots (5)$$

or †Theorem 11:—*The difference of the reciprocals of the present values of an annuity for any two given periods of time is the same as that of the reciprocals of the corresponding annuity amounts for the same periods of time.*

$$\begin{aligned} 29.—\text{Since } \Phi_{n-1} &= \frac{1 - (1+i)^{-(n-1)}}{i} \\ &= \frac{1 - (1+i) \cdot (1+i)^{-n}}{i} \\ &= \frac{1 - (1+i)^{-n}}{i} - (1+i)^{-n} \\ &= \Phi_n - (1+i)^{-n} \end{aligned}$$

$$\therefore (1+i)^{-n} = \Phi_n - \Phi_{n-1} \dots\dots\dots (6)$$

*i. e.* the present value of a single sum due in  $n$  years = the difference of the present values of an annuity of the same sum for  $n$  and  $(n-1)$  years.

Whence, inversely, †Theorem 12:—*A table of present values for single sums can be deduced from a table of annuity present values by taking the first differences.*

30.—To determine the relations between the *amounts* of a yearly annuity of £1 for  $n$  years, according as it is payable at the *end* or at the *beginning* of each year.

Let  $\Sigma_n$  = the amount of annuity for  $n$  years, payable at the *end* of each year

and  $\Sigma'_n$  = the amount of annuity for  $n$  years, payable at the *beginning* of each year

$$\text{then } \Sigma'_n = \Sigma_n (1+i) \dots\dots\dots (1)$$

$$\text{or } \Sigma'_n = \Sigma_{n+1} - 1 \dots\dots\dots (2)$$

This formula is important, as it enables the amount of yearly annuities, payable at the beginning of each year, to be determined from a Table for annuities payable at the end of each year.

31.—To determine the *present value* of an annuity of £1 a year for  $n$  years,

payable at the *beginning* of each year, from a Table of the present values of annuities payable at the *end* of each year,

Let  $\Phi_{n-1}$  = the present value of an annuity for  $(n-1)$  years, payable at the end of each year

and  $\Phi'_n$  = the same for  $n$  years, payable at the beginning of each year

then  $\Phi'_n = \Phi_n(1+i)$

or  $= 1 + \Phi_{n-1}$

Example (see Table XI.); £4.5797 is the *present value* of £1 a year payable at the *end* of each year for 5 years, calculated at 3 per cent. rate of interest.

Therefore £5.5797 is the present value of £1 a year payable at the *beginning* of each year for 6 years.

32.—In the preceding propositions we have determined the amount and present value of annuities. We shall now proceed to examine the practical application of the formulæ.

A given sum  $\Phi$  is borrowed for  $n$  years. To determine what annuity  $a$ , paid for that time in  $m$  equal portions  $\frac{a}{m}$  every year, will pay off the principal and interest thereon also supposed due  $m$  times a year,  $m \cdot n$  being an integer.

$$\begin{aligned} \text{*Here } \Phi &= \left(\frac{a}{m}\right) \cdot \frac{1 - \left(1 + \frac{i}{m}\right)^{-m \cdot n}}{\left(\frac{i}{m}\right)}, \\ \therefore \left(\frac{a}{m}\right) &= \frac{\Phi \cdot \left(\frac{i}{m}\right)}{1 - \left(1 + \frac{i}{m}\right)^{-m \cdot n}} \dots \dots \dots (1). \end{aligned}$$

33.—Let the time  $n$  be such that the sum  $\Phi$ , if unpaid, would accumulate at compound interest to  $f$ -fold its original value. See Art. 11.

$$\text{Then } f \cdot \Phi = \Phi \cdot \left\{ 1 + \frac{i}{m} \right\}^{m \cdot n}$$

$$\therefore \text{From Art. 32 above, } \left(\frac{a}{m}\right) = \frac{f}{f-1} \cdot \Phi \cdot \left(\frac{i}{m}\right) \dots \dots \dots (2).$$

$$\text{or, } a = \frac{f}{f-1} \cdot \Phi \cdot i \dots \dots \dots (3).$$

Hence, †Theorem 13:—If a sum of money be borrowed for such a time, that, if unpaid, it would amount to  $f$ -fold its original value, then the

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\* [This equation is obtained by substituting for  $a$ ,  $i$ , and  $n$ , in equation (3), Art. 27,  $\frac{a}{m}$ ,  $\frac{i}{m}$ , and  $m \cdot n$ .]



*annuity which would pay it off, principal and interest, in that time is equal to  $\frac{f}{f-1}$  times one year's interest on the debt.*

The accuracy of this theorem requires that the intervals, at which the instalments of the annuity are paid, should be aliquot parts of the whole period over which it extends. When the interval is small, as in the case of monthly payments, the formula (2) may be applied without reservation, and differs by an inappreciable quantity from the truth; and even for yearly payments the error in (3) is practically of no importance.

In proceeding to apply this theorem, we shall consider  $f$  as given, and equal to some whole number, in which case  $m.n$  is always fractional, but this circumstance, for the reasons above given, will not interfere with the practical accuracy of the solution.

34.—Let  $f = 2$ , or the time be that in which money would double at compound interest.—See Art. 11.

∴ From equation (3), Art. 33, the annuity  $= 2\Phi.i$   
 or, †Theorem 14:—*If a sum of money be borrowed for such a number of years, that if unpaid it would by yearly compound interest double itself, then the debtor can liquidate his debt with interest in that time by a yearly annuity equal to twice one year's interest on the sum borrowed; the last payment of the debtor being a fractional portion of the year's annuity proportionate to the fractional number of days.*

35.—If the payments be made monthly, as in Building Societies:

The monthly payment = twice the interest for one month.

Example 1.—In a 14 years' Building Society, calculated at 5 per cent. monthly rate of interest, the shares are £120, of which the present value is £60, because money doubles itself in nearly 14 years at 5 per cent.; to find the monthly payment  $\frac{a}{12}$  for 14 years, which will pay off a debt of £60, including principal and interest thereon as it accrues,

$$\text{Here } \Phi = 60$$

$$i = .05$$

$$\frac{i}{12} = \frac{.05}{12}$$

$$\therefore \text{the monthly payment } \left(\frac{a}{12}\right) = 60 \times \frac{2i}{12} = £.5 = 10^{\text{sh}}$$

That is to say, 10<sup>sh</sup> a month for nearly 14 years will pay off a debt £60 borrowed at the beginning.

This explains the principle of those societies that charge 10<sup>sh</sup> a month for that purpose.

Example 2.—In 10 years' Societies formed on a basis of 7 per cent.

As before,  $\Phi = 60$ , but  $i = \cdot 07$ .

$$\begin{aligned}\therefore \text{the monthly payment } \left(\frac{a}{12}\right) &= \Phi \times \frac{2i}{12} \\ &= 60 \times \frac{\cdot 14}{12} = \text{£} \cdot 7 \\ &= 14^{\text{sh}}\end{aligned}$$

Therefore a monthly payment of  $14^{\text{sh}}$  for about 10 years will pay off the debt £60 with interest. Hence the charge of  $14^{\text{sh}}$  a month in such Societies.

36.—The theorem in the preceding articles, which has been so investigated to bring forward certain points in the working of Benefit Building Societies, may also be proved thus, and put under another form.

If a single sum £1 accumulates in a certain time to £ $f$ ,

Then the periodic interest  $i$  on the £1 has amounted to £( $f - 1$ ),

(since it is by the interest that the result is produced).

$\therefore$  Dividing both sides by  $i$ , we have

†Theorem 15:—*The amount of an annuity of £1, (in the time in which a single sum becomes  $f$ -fold its original value), is*

$$\begin{aligned}&= \text{£} \frac{f - 1}{i} \\ &= \text{£} \frac{100(f - 1)}{\text{rate of interest per cent.}}\end{aligned}$$

Ex. Let  $f = 2$ , then,

†Theorem 16:—*The amount of an annuity of £1 a year, in the \*exact time in which a single sum would double itself, is equal to  $\frac{\text{£}100}{\text{rate per cent.}}$*

37.—To determine the rate of interest at which a given annuity will amount to a given sum in a stated number of years:

$$\text{Since } \Sigma_n = a \cdot \left( \frac{(1 + i)^n - 1}{i} \right)$$

$$\therefore (1 + i)^n = \frac{\Sigma_n}{a} \cdot i + 1$$

No complete method has yet been discovered for solving this equation of the  $n^{\text{th}}$  degree; several modes of approximation have, however, been given by various eminent writers on this subject, which serve to determine the value of  $i$  with great exactness, although they are rather complicated in their application. The formulæ are obtained by expanding  $(1 + i)^n$  by the Binomial theorem, and deducing a result by neglecting terms involving powers of  $i$

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\* [The reader will understand the word "exact" to mean the actual result given by the formula  $\frac{\log_e 2}{\log_e (1 + i)}$ . Vide Art. 11.]

above the third. The following (suggested by the late Mr. Francis Baily) gives a near approximation :

$$\text{Let } D = \left\{ \frac{\Sigma_n}{a \cdot n} \right\}^{\frac{2}{n-1}} - 1$$

$$\text{Then } i = \frac{\{12 + (n+1) \cdot D\} \cdot D}{12 + 2(n+1) D} \dots\dots\dots (1).$$

38.—To determine the value of  $i$  when the present value, the annuity, and the number of years are given.

The equation for solution is  $\Phi_n = a \cdot \frac{1 - (1+i)^{-n}}{i}$  which presents the same difficulty as that in Art. 37. A near approximate formula is :

$$i = \frac{\{12 - (n-1) \cdot E\} \cdot E}{12 - 2(n-1) \cdot E} \dots\dots\dots (2).$$

$$\text{where } E = \left\{ \frac{a \cdot n}{\Phi} \right\}^{\frac{2}{n+1}} - 1$$

39.—Let  $L$  be a present sum borrowed, and it be determined to set aside every year a certain Annuity  $a$  to repay principal and interest at the nominal yearly rate of  $i$  per pound : the balance of the debt or amount still due ( $B_x$ ) at the end of  $x$  years is

$$B_x = L \cdot (1+i)^x - a \cdot \frac{(1+i)^x - 1}{i} \dots\dots\dots (3).$$

40.—Whence

$$(a - i \cdot L) = (a - i \cdot B_x) \cdot (1+i)^{-x} \dots\dots\dots (4).$$

*i. e. the difference between the annuity  $a$  and one year's interest on the sum borrowed  $L$  is constantly equal to the present value of the difference between the said annuity and the interest on the balance of the debt at the end of any number of years.*

41.—For convenient use of tables, (3) may be put under the form

$$B_x = L \cdot Z_x - a \cdot \Sigma_x \dots\dots\dots (5).$$

where  $\Sigma_x$  and  $Z_x$  are the accurate amounts at interest of an annuity of £1 and of a single sum of £1 respectively for  $x$  years.

42.—The progress of the decrease of a Loan is shown in  $r$  years after  $x$

$$B_x - B_{x+r} = a \cdot (\Sigma_{x+r} - \Sigma_x) - L \cdot (Z_{x+r} - Z_x) \dots\dots\dots (6).$$

which can be calculated at once from the Tables.

43.—To find  $a$ , the annuity that will pay off the loan in  $n$  years,

From (5)  $B_n = \bar{0}$

$$\therefore a = L \cdot \frac{Z_n}{\sum_n} \dots \dots \dots (7).$$

44.—To find  $n$

In (4) making  $B_n = 0$

$$(1+i)^{-n} = 1 - i \cdot \frac{L}{a}$$

$$n = - \frac{\log \left( 1 - i \cdot \frac{L}{a} \right)}{\log (1+i)} \dots \dots \dots (8).$$

## SECTION IV.

### *Practical Considerations relating to Industrial Associations.*

Art. 45.—In a permanent Building Society the Investors subscribe with the view of receiving, at the end of a given time, certain shares, which are equivalent to their payments, with compound yearly interest, after the rate of  $i$  per pound. The subscriptions are, however, lent to borrowers at  $i_1$  per pound rate of interest,  $i_1$  being greater than  $i$ . The payments of the Borrowers are made at the end of each year, so as to repay principal and interest in a given term of years, which is the same for all. To determine the advantage derived by the society by the yearly difference ( $i_1 - i$ ) in the rates of interest, or in other words, *what portion of the repayment income* may be annually written off as surplus profit.

Let  $a$  = the yearly income received in repayment of various loans amounting to  $\Phi$ .

$x$  = the annual profit.

$n$  = the term of years for which  $\Phi$  is lent.

$$\therefore \Phi = a \cdot \frac{1 - (1+i_1)^{-n}}{i_1}$$

Now at  $i$  per pound rate of interest ( $a - x$ ) would have been the annual repayment.

$$\therefore \Phi = (a - x) \frac{1 - (1+i)^{-n}}{i}$$

$$\therefore a \cdot \frac{i}{i_1} \cdot \frac{1 - (1+i_1)^{-n}}{1 - (1+i)^{-n}} = a - x$$

$$\therefore x = a \cdot \left\{ 1 - \frac{i}{i_1} \cdot \frac{1 - (1+i_1)^{-n}}{1 - (1+i)^{-n}} \right\} \dots \dots \dots (i),$$



When the society lends for various periods, or different values of  $n$ , then  $x$  also varies; and the portion of the repayment income, which may be annually written off as profit, diminishes slowly as  $n$  increases, passes through a minimum, and then steadily increases. For the two rates 5 and 7 p.c. the minimum is upon a loan for thirteen years, at all other periods the difference is greater. In \*the set of rules given by us for a permanent Building Society we recommend only a portion of the surplus income to be carried to the Management and Contingent Fund.

46.—A member borrows  $\Phi$  for  $n$  years at  $\frac{i_1}{12}$  per pound *monthly* rate of interest. This loan he is to repay by periodic instalments including principal and interest. To find the *difference* between the requisite payments according as they are annual or monthly.

If he pay *annually*, let  $a$  = annual payment.

*monthly*,  $\frac{b}{12}$  = monthly payment.

$$\therefore \Phi = a \cdot \frac{1 - (1 + i_1)^{-n}}{i_1} \dots \dots \dots (1).$$

$$\text{Or, } \Phi = \frac{b}{12} \cdot \frac{1 - \left(1 + \frac{i_1}{12}\right)^{-12 \cdot n}}{\frac{i_1}{12}} \dots \dots \dots (2).$$

$$\therefore 0 = a \cdot \left\{ 1 - (1 + i_1)^{-n} \right\} - b \left\{ 1 - \left(1 + \frac{i_1}{12}\right)^{-12n} \right\}$$

$$\text{hence, } b = a \cdot \frac{1 - (1 + i_1)^{-n}}{1 - \left(1 + \frac{i_1}{12}\right)^{-12n}} \dots \dots \dots (3).$$

$$\therefore a - b = a \cdot \frac{(1 + i_1)^{-n} - \left(1 + \frac{i_1}{12}\right)^{-12n}}{1 - \left(1 + \frac{i_1}{12}\right)^{-12n}} \dots \dots \dots (4).$$

In the permanent society described in Part I. the repayments are calculated by equation (1). If it were practically possible to invest the money of the society every month as soon as received, then the value of  $b$  given by equation (2) would cover the repayment of the loan  $\Phi$  with interest, and there would be a yearly gain, in the receipts, represented by  $(a - b)$ .

47.—To determine the excess of Accumulation obtained at the end of  $n$

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\* [Although the repayment-difference passes through a minimum, the percentage of advantage shown by comparing the difference with the repayment is always increasing.]

years, by the receipt and immediate reinvestment of the monthly subscriptions at *monthly* interest after the rate of  $i_1$  per pound; when the Investors are only promised the accumulation of their subscriptions, as if paid yearly and invested at compound yearly interest  $i$  per pound.

Let  $A$  = the amount at  $\frac{i_1}{12}$  per pound monthly interest,

$B$  = the amount at  $i$  per pound yearly interest,

$\frac{a}{12}$  = the monthly subscription,

$$\therefore A = \frac{a}{12} \cdot \left\{ \frac{\left(1 + \frac{i_1}{12}\right)^{12n} - 1}{\frac{i_1}{12}} \right\}$$

$$B = a \cdot \left\{ \frac{(1+i)^n - 1}{i} \right\}$$

$$A - B = a \cdot \left\{ \frac{\left(1 + \frac{i_1}{12}\right)^{12n} - 1}{i_1} - \frac{(1+i)^n - 1}{i} \right\} \dots\dots\dots (1).$$

48.—If the repayments of the Borrowers be deferred  $n_1$  years, the annual instalment for  $n$  years next following, to liquidate the debt with the arrears of interest thereon, will be given by the equation

$$\Phi \cdot (1+i_1)^{n_1} = a \cdot \frac{1 - (1+i_1)^{-n}}{i_1}$$

$$\therefore a = \Phi \cdot i_1 \cdot \frac{(1+i_1)^{n_1+n} - 1}{(1+i_1)^n - 1} \dots\dots\dots (2).$$

whence the values of  $n$  can be obtained with facility by means of one table, viz. Table 4.

49.—NOTE to page 32. On the adjustment of the amount of contribution per share to be paid by Borrowers in a terminating Building Society, as their quota towards making up a deficiency in the amount required at the epoch of its expected termination, in order to enable the Investors to receive their shares in full.

Let  $D$  = the deficiency,

$m$  = number of Investors' (or unadvanced) shares,

$f$  = total monthly income from subscriptions on the same,

$g$  = total monthly income from Borrowers' repayments, where the payments on each share are not necessarily the same:—

Then:—1st. If the society's existence, and consequently the members' subscriptions, were continued for the purpose of making up  $D$ ; as no new

Borrowers would be found, the money received must remain idle or be invested in the public funds.

Let  $x$  = number of extra months' subscription,

$i$  = the *average* monthly interest obtained per pound,

and suppose the existing assets to produce, through interest, just sufficient income to cover the current office expenses during the extra months,

$$\therefore D = (f + g) \cdot \left\{ \frac{(1 + i)^x - 1}{i} \right\}$$

$$\therefore (1 + i)^x = 1 + \frac{D i}{f + g}$$

$$\therefore x = \frac{\text{Log.} \left( 1 + \frac{D i}{f + g} \right)}{\text{Log.} (1 + i)} \dots \dots \dots (1).$$

2ndly. If, instead of continuing the society for the additional months, the holders of unadvanced shares consent to waive their right to receive them in full, and be willing to put up with some loss, in order to receive whatever money they can at once; the Borrowers must contribute their share of the *present value* of  $D$ , or of

$$D (1 + i)^{-x} = \frac{D}{1 + \frac{D i}{f + g}}$$

Hence the unit of contribution from all members, both Investors and Borrowers, will be

$$\frac{1}{f + g} \cdot \left( \frac{D}{1 + \frac{D i}{f + g}} \right) = \frac{D}{(f + g) + D i}$$

And the Borrowers must contribute  $g$  units, or a sum

$$= \frac{D g}{(f + g) + D i} \dots \dots \dots (2).$$

of which each Borrower contributes respectively in proportion to his units of monthly repayment to the society on his loan.

The remaining loss on each Investor's share will be

$$\frac{D}{m} \cdot \left\{ 1 - \frac{g}{(f + g) + D i} \right\} \dots \dots \dots (3).$$

50.—If a *valuation* be made prior to a deficiency being discovered, and it be sought to ascertain the probable future duration of the association, then

If  $A$  = clear cash assets over and above outstanding debts, accounts, loans due to bankers, etc.

$e$  = average monthly expense that may be expected,

$x$  = number of future months' duration,

$s$  = amount of each investing share,

$$m.s = A \cdot \left\{ 1 + i \right\}^x + \left\{ f + g - e \right\} \frac{(1+i)^x - 1}{i} \dots (4).$$

$$\therefore (1+i)^x = \frac{i \cdot m.s. + (f+g-e)}{A \cdot i + (f+g-e)}$$

$$\therefore x = \frac{\text{Log.} \left\{ 1 + \frac{i \cdot (m.s. - A)}{A \cdot i + (f+g-e)} \right\}}{\text{Log.} (1+i)} \dots \dots \dots (5).$$

This equation is very simple in application, and depends on only one assumption respecting the future, viz. That a rate of monthly interest  $i$  per pound may be counted upon to the very end of the association. The practical judgment of the Actuary will know how to modify it when required.

51.—If no interest be expected to be realized, the result would be obtained either directly,

or by putting  $i = 0$  in equation (4)

$$\therefore m.s = A \cdot 1^x + \left\{ f + g - e \right\} \frac{1^x - 1}{0}$$

$$= A + \left\{ f + g - e \right\} \cdot \frac{0}{0} \dots \dots \dots (6).$$

To determine the limiting value of the fraction  $\frac{0}{0}$  to which  $\frac{(1+i)^x - 1}{i}$  is equal when  $i = 0$ , we must expand, or differentiate. Whence

$$*\text{Limit} \left\{ \frac{(1+i)^x - 1}{i} \right\}_{i=0} = \text{Limit} \left\{ \frac{x \cdot (1+i)^{x-1}}{1} \right\}_{i=0} = x$$

Hence substituting in equation (6) and reducing we have

$$x = \frac{m.s - A}{f + g - e} \dots \dots \dots (7).$$

52.—In framing the *Liability and Asset* account set forth at page 63, Part I., care must be taken to avoid giving an erroneous estimate of the present value of the mortgages. The difficulty consists in the circumstance, that their present value is greater, in favour of the society, the less the rate of interest assumed in discounting the repayments which they produce. The best way is to discount at the higher rate of interest  $i_1$ , which is charged fundamentally from Borrowers. But it will be necessary to add a caution to the Managers, that the smaller present value, thus afforded in the making up of the society's assets, is merely the result of a proper precaution to avoid pro-

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\* [Or thus, expanding by the Binomial Theorem—

$$\frac{(1+i)^x - 1}{i} = \frac{1 + x \cdot i + \frac{x(x-1)}{1 \cdot 2} i^2 + \text{etc.} - 1}{i} = x + \frac{x(x-1)}{1 \cdot 2} i + \text{etc.} = x \text{ when } i = 0.]$$



ducing a fictitious amount of present profit, and that Redemptions should not be allowed upon such terms.

53.—*As to Paid-up Shares.*—In calculating the single payment  $\Phi_n$  to be required from a member in place of the monthly subscription for  $n$  years, the present value of the monthly annuity should be discounted at a lower rate of interest  $i_2$  than that which the investors are credited with towards the realization of their shares, and the payment should be treated as due at the beginning of each half year, as a half-yearly annuity.

If  $\frac{a}{12}$  = the monthly subscription,

$$\Phi_n = \frac{a}{2} \cdot \left\{ 1 + \frac{1 - \left(1 + \frac{i_2}{2}\right)^{-(2n-1)}}{\frac{i_2}{2}} \right\} \dots\dots\dots (1).$$

Sometimes the societies, instead of using this formula, content themselves with discounting the *share* ( $s$ ) itself (when it is proposed to pay it up) at  $i_2$  interest, and not the monthly payments. This is not just when  $i_2$  is  $< i$ , because although the member paying up his share should only receive discount, after  $i_2$  interest, for the time which would elapse before his subscription become due, yet he should be credited with the higher rate afterwards. In other words, Managers use the formula :

$$\text{Single payment} = \frac{s}{(1 + i_2)^n}$$

instead of the equitable one given by (1), viz. :

$$\frac{1}{2} \cdot \frac{s i}{(1 + i)^n - 1} \cdot \left\{ 1 + \frac{1 - \left(1 + \frac{i_2}{2}\right)^{-(2n-1)}}{\frac{i_2}{2}} \right\} \dots\dots\dots (2).$$

which is just as easy to use, since  $a$  is already known.

We have said that  $i_2$  should be always  $< i$ , for which see Art. 93, Part I. it will also be regulated by the consideration as to how far Paid-up Shares are to participate in any surplus expenses or losses, over and above the management and contingent fund, that may afterwards be discovered. Occasionally an arrangement is made, that, while partaking of the profits, they shall not be called upon to contribute to any excess of expenses or losses. This is a matter of arrangement, according to circumstances. It will, perhaps, in general suit the purposes of a society to covenant that a member paying up the whole of his shares shall be required, in case of future loss, to contribute after a rate proportional to *half* the number of years for which he has paid up.

Too frequently the Managers are willing to discount at the higher rate  $i$ , which is taking the other extreme, and would be depriving the society of

proper margin, or they charge  $\frac{s}{(1+i)^n}$ . The correct principle, however, is to adopt the formula (2), which is a value between the two extremes,  $\frac{s}{(1+i_2)^n}$  and  $\frac{s}{(1+i)^n}$ .

In reference to this Article, the reader should consider Art. 24, which contains an interesting point in the operations of discounting shares.

54.—*As to Withdrawals of unadvanced Shares.*—The rate of interest allowed on withdrawals should increase with the number of years' subscriptions paid.

Let  $a$  = one year's subscription,

$n$  = number of years in which the shares are realizable,

$i$  = the rate of interest, at which the subscriptions are credited, on the average, so as to amount to a share  $s$  in  $n$  years.

Let no interest be allowed on withdrawal until the end of the second year, when it shall be at the rate of  $\frac{i}{n-1}$  per pound per annum, and let the interest allowed per annum ascend by equal differences, until it becomes  $i$  per pound, at the end of the last year for which the subscriptions are payable. Then the amount, that might be paid to any member withdrawing at the close of the  $r^{\text{th}}$  year, would be represented generally by

$$W_r = a \cdot \frac{\left(1 + \frac{r-1}{n-1}i\right)^r - 1}{\left(\frac{r-1}{n-1}\right) \cdot i}$$

and by giving to  $r$  the values 1, 2, . . .  $n$ , a table of withdrawals would be formed from the corresponding values of  $W_1 W_2 \dots W_n$ . It will be noticed that  $W_n$  must be  $= s$ , and that  $W_1$  is a fraction of the form  $\frac{0}{0}$ , but that expression reduces itself to  $W_1 = a$ , on expanding, or differentiating by the rule usual in such cases. *Vide* Art. 51.

55.—*As to the apportionment of any surplus profit, expenses, or losses,* which may be ascertained to exist after a periodic valuation of the society's affairs, at the end of any number of years  $n$ . In the cases of expenses or losses, it would be supposed that they exceed the management and contingent fund and so leave a margin to be made up by the holders of unadvanced shares.

Let  $\psi$  = the surplus profit or loss to be divided.

$m_1$  = number of existing unadvanced shares which were issued in the first year, or counted as of  $n$  years' standing.

$m_2$  = number of existing unadvanced shares which were issued in the *second* year, or counted as of  $(n - 1)$  years' standing.

$m_n$  = number of existing unadvanced shares which were issued in the  $n^{\text{th}}$  year, or counted as of 1 year's standing.

In which are included the paid-up shares (see preceding article).

Then the aggregate units, among which the apportionment is to be made, are

$$= n \cdot m_1 + (n - 1) \cdot m_2 + (n - 2) \cdot m_3 + \dots + 2 \cdot m_{n-1} + m_n.$$

The standard unit  $U_1 = \frac{\psi}{n \cdot m_1 + (n - 1) \cdot m_2 + \dots + 2 \cdot m_{n-1} + m_n}.$

So that a share taken out in the  $r^{\text{th}}$  year, or of  $(n - r + 1)$  year's standing, has a right to receive in the way of profit, or is bound to contribute if it be loss that is apportioned, a sum

$$= (n - r + 1) \cdot U_1 \dots \dots \dots (1).$$

Ex. : Let  $\Psi = £27 : 10s.$  surplus profit.

$$n = 3$$

$$m_1 = 125$$

$$m_2 = 50$$

$$m_3 = 75$$

$$\text{Then } U_1 = £0\bar{5} \text{ or } 1s$$

or the shares issued in the first year are entitled to 3*s.* per share, those in the second year to 2*s.*, and those in the third to 1*s.*

If the apportionment be so made, as to have relation to the interest which the member is supposed to have acquired in the society, or to the then value of his shares, on the principle adopted in many *Life assurance offices*, the standard unit would become

$$U_2 = \frac{\psi}{m_1 \cdot A_n + m_2 \cdot A_{n-1} + \dots + m_{n-1} \cdot A_2 + m_n} \dots (2).$$

$$\text{Where } A_r = \frac{(1+i)^r - 1}{i} \text{ generally.}$$

The past payments being treated as made at the *end* of each year, and improved at  $i$  per pound interest (see Arts. 48 and 59, part 1). Hence a share taken out in the  $r^{\text{th}}$  year would bear  $A_{n+1-r} \cdot U_2$  as its apportionment. Such a mode of calculating, at all events, the division of surplus profits, would, perhaps, be very *desirable*, as it would correspond to the principle of accumulation by which the unadvanced shares themselves are realised; but it would involve such an amount of trouble and consequently expense in the calculation, that it would be injudicious for any industrial association to incur it.

NOTE to Art. 64, Part 1. *On the Contributions to be required from Borrowers towards the Management and Contingent Fund.*

56.—The rate can be determined by the following considerations :—



In the article referred to it has been sufficiently explained, that a fund must be formed to provide for unforeseen contingencies, which occur in Building and other similar institutions, and entail pecuniary loss, either through some investments turning out to have been made upon bad security, or by the legal and other expenses incurred in seeking the recovery of the unliquidated amount due by a borrower. The probability of loss does not arise from any inherent defect in the security itself usually accepted by these associations, but rather in the want of sufficient skill on the part of the officers (who are employed to estimate its value or its goodness in a legal point of view), or of proper attention in watching, afterwards, that the mortgagor does not in any way infringe the covenants which are involved in the *tenure* of the property. As, however, in the settling of the rules or deed of constitution, care must be taken that the investors (or those members who supply the money for advances) may not be unprotected in case of such error in judgment or inattention; and as, from the restricted means of the peculiar class from which the borrowers usually proceed, comparatively little, if any, protecting margin can be preserved between the saleable value of the property and the sum lent by the society, it is clear that an equitably adjusted contribution must be required, by way of commission or otherwise, from each borrower, that a Management and Contingent Fund may be formed with it, to which would be added the difference in the rates of interest referred to in Art. 58, Part 1; so that, on the average of investments, no positive deficiency of money may arise in the assets of the association.

If all the loans were of equal magnitude, the rate per cent. could be adjusted by the results of the past experience of other similar institutions; but the case in practice is one of advances of every variety in amount within given limits; and the contingency of pecuniary loss is not dependent upon the *Amount* of the advance, but is rather a function of human skill, experience and attention; hence, when a borrower seeks for an advance exceeding the magnitude of the majority of the loans for which a rate of contribution has already been settled, he entails, with an *equal chance* of loss, greater *money risk*; and he must pay to the contingent fund somewhat more than after the rate per cent. for smaller loans. For example: suppose that the majority of the advances are to the extent of £100, and the proper percentage on each were £1, then for special loans of £200 or £300 a higher contribution than £2 or £3 would be requisite; since, in the event of that individual security, upon which the larger sum is advanced, becoming a source of loss, there would not be sufficient money supplied by the other loans to make it up. For further illustration: let £10,000 be advanced, not in 100 loans of £100, but in 98 of that amount and one of £200; if the rate from all of the contingent contributions were one per cent., the £100 thus received would be sufficient only in case of loss arising from one of the 98 loans, consequently the rate for



the £200 should be so adjusted that the society may be paid, for speculating to its extent, in a rate proportioned to the money risk.

Instead of deducing a scale from the law of probabilities, based upon a fundamental assumption for the average of loans, we propose to meet the necessity of a fund, and to diminish the pressure upon the borrowers, by availing ourselves of the consideration that, as the society is essentially established to benefit both classes of its members by the operations of compound interest, and as its duration is of unlimited extent, the indemnity rate upon a loan, say, =  $f$ . A, may with propriety be proportioned to the restorative power of compound interest; or, upon each successive unit A of the capital advanced, the contribution may bear a relation to the *velocities of arithmetical augmentation*, by which a single capital A passes through the successive stages of accumulation from one-fold to two-fold, two-fold to three-fold, and so on, of its original magnitude; since it is thus that can be measured very accurately the advantage derived by a borrowing member, in being enabled to commute his otherwise unproductive *rent* payments to a landlord into the purchase-money of valuable property, which is all the more profitable to him, that the original payments converted are larger. Hence, referring to Art. 16, the commission upon advances should be proportioned to the quantities represented by

$$\frac{\text{Log. } 2}{\text{Log.} \left(1 + \frac{1}{f}\right)} \text{ for successive values of } f, \text{ in this manner, viz.:}$$

Let the commission on a sum of £L, supposed to be the general amount of loans, be =  $c$ , then, upon a loan of 2 L, it should be =  $c$  upon the first unit L, and  $c \cdot \frac{\text{Log. } 2}{\text{Log. } \frac{3}{2}}$  upon the *second* L, or together,

$$= c \cdot \left\{ 1 + \frac{\text{Log. } 2}{\text{Log. } \frac{3}{2}} \right\} ,$$

Again, upon a loan of 3 L, it would be  $c \cdot \left\{ 1 + \frac{\text{Log. } 2}{\text{Log. } \frac{3}{2}} \right\}$  upon 2 L, and

$c \cdot \left\{ \frac{\text{Log. } 2}{\text{Log. } \frac{4}{3}} \right\}$  upon the 3rd L; or upon the whole 3 L the commission

should be =  $c \cdot \left\{ 1 + \frac{\text{Log. } 2}{\text{Log. } \frac{3}{2}} + \frac{\text{Log. } 2}{\text{Log. } \frac{4}{3}} \right\}$ . And generally, upon a loan of

$f$ . I., the commission should be

$$= c \cdot \left\{ 1 + \frac{\text{Log. } 2}{\text{Log. } \frac{3}{2}} + \frac{\text{Log. } 2}{\text{Log. } \frac{4}{3}} + \dots + \frac{\text{Log. } 2}{\text{Log. } \left(1 + \frac{1}{f}\right)} \right\}$$

$$= c \cdot f \left\{ 1 + \frac{.70}{2} (f-1) \right\} \text{ nearly } \dots \text{ see note (a)} \dots \dots \dots (1).$$

when  $f$  is an integer.

[(a) The remarkable logarithmic series, from which this result is deduced, can only be summed with difficulty when the number of terms is considerable; as it requires transformations similar to those by which the summation of logarithms of numbers in arithmetic progression is effected, such as in the case of the Eulerian integral usually designated by the letter  $\Gamma$ . The process depends upon the well-known formula for integrating the function  $u_x$ : viz.

$$\Sigma u_x = \int u_x dx - \frac{u_x}{2} + \frac{B_1}{1.2} \cdot \frac{d u_x}{d x} - \frac{B_3}{1.2.3.4} \cdot \frac{d^3 u_x}{d x^3} + \dots$$

$$+ (-1)^{n+1} \cdot \frac{B_{2n-1}}{1.2.3 \dots (2n)} \cdot \frac{d^{2n-1} u_x}{d x^{2n-1}} + \text{etc.}$$

where  $B_1, B_3, \dots B_{2n-1}$  are Bernoulli's numbers equal to  $\frac{1}{6}, \frac{1}{30}, \frac{1}{42}, \dots$

$$(-1)^{n+1} \cdot \left( \frac{\log_e (1 + \Delta)}{\Delta} - 1 \right) \cdot O^{2n}.$$

$$\text{Putting } N_f = \frac{1}{\text{Log. } 2} + \frac{1}{\text{Log. } \frac{3}{2}} + \frac{1}{\text{Log. } \frac{4}{3}} + \dots + \frac{1}{\text{Log. } \left(1 + \frac{1}{f}\right)}$$

$$\text{we can deduce } N_f = \frac{f^2}{2} + f - \frac{\text{Log. } f}{12} - C - \frac{1}{12f} + \frac{31}{720f^2} + \text{etc.} \dots \dots (2)$$

in which the numerical calculation gives  $C = .00063$ .

Hence, referring to the text,

$$N_f \cdot \text{Log. } 2 = f \left( \frac{f}{2} + 1 \right) \cdot 693147 \text{ nearly.}$$

$$= f \left\{ f \times .34657 + .693147 \right\}$$

$$= f \left\{ 1 + .03972 + (f-1) \times .34657 \right\}$$

$$= f \left\{ 1 + \frac{.70}{2} (f-1) \right\} \text{ very nearly.}$$

This arithmetic progression holds up to  $f=21$  within several thousandth parts of unity; and for all practical purposes the terms of  $N_f$  after the first two may be neglected. *The same approximate result might have been obtained from equation (1), note to Art. 16.*

It will be noticed that (2) gives for  $N_f$  or the summation of the *reciprocals* of logarithms of the form  $\log. \left(1 + \frac{1}{f}\right)$  a series, one part increasing with  $f$ , the other decreasing, analogous in form to the *Sum* of  $\log. f = \text{Log. } (1.2.3 \dots f.)$

$$= \text{Log. } \sqrt{2\pi} + \left( f + \frac{1}{2} \right) \text{Log. } f - f + \frac{1}{12f} - \frac{2}{720} \cdot \frac{1}{f^3} + \text{etc.}]$$

*Remark.*—In this Equation  $f$  is treated as an integer, but the application can be modified without difficulty to calculate the deduction on advances not multiples of  $L$ .

57.—If it be desired to create an annual income to the fund, and the probable amount of loan business each year be ascertained, an equation can at once be deduced for determining the proper value of  $c$  to start with.

58.—In general, although  $c$  is deducted at once from the advance  $L$ , it is made to depend upon the duration of the mortgage, or it is taken  $= n \cdot k \cdot L$ , when the loan is for  $n$  years ( $k$  being a fraction).

Example: Let  $k \cdot L = 4^{\text{th}}$  per annum upon a loan  $L = £200$ , granted for ten years, or the commission be  $£1$  per cent. upon advances of  $£200$ , then the deduction upon a loan of  $£600$  for ten years would, by equation (1), be  $= £2 \times 3 \cdot \left\{ 1 + \frac{.70}{2} \cdot 2 \right\} = £10 \cdot 2$  or  $£10 : 4s.$ , which is  $£1 : 14s.$  per cent. on the  $£600$  loan.

## THE DEPOSIT SYSTEM.

### *Respecting Single Deposits.*

59.—To extend the operations and benefits of Industrial Associations, Sums of money might be received as deposits for a nominal period of years at interest, with power of withdrawal on demand, or with very short notice, of a portion thereof. Such a system would afford to the depositors the usual convenience of the savings banks in respect to the withdrawal of their money, while they would obtain the advantages of a much more remunerative interest, provided the agreement were, that the interest already *due* upon any portion withdrawn (if that should happen) should remain over with the rest of the deposit as an investment to be received at the expiration of the originally agreed term of years. On such an hypothesis, the *withdrawable* part of the principal should be considered as producing a less periodic rate of interest than both the other part of the deposit and the general instalments of interest themselves do when reinvested; or it should be treated as laid out in readily convertible securities, such as the public funds, exchequer bills, etc., which produce but a moderate rate of interest. The remainder of the deposit, and the instalments of *interest* from time to time accruing on the withdrawable portion (not being liable to unexpected demand) can be laid out in much less available security, such as mortgages on land or houses at a higher rate of interest, or in fact they might be engaged in the society's operations. For example, if

£10,000 were the amount of numerous deposits on such terms for an agreed period, and £2000 were withdrawable on demand, that sum should be invested in ready security, say at  $2\frac{1}{2}$  or 3 per cent., and the remaining £8000 in more lucrative investments at 5 per cent., or even more, with the periodic annuity instalments of £50 or £60 a year on the £2000, as from time to time they come in.

60.—*We have said that the right of withdrawal might be on demand, as the floating income of the society would much exceed, under ordinary circumstances, the average amount of applications.* A power, nevertheless, could and should be reserved to the committee of management or directors, to *suspend withdrawal payments*, if an unexpected pressure caused too great inconvenience or menaced the stability of the society. As the institution would be based upon principles of co-operative mutuality, such a power would be strictly equitable.

61.—Let  $Z_n$  = the amount payable in return for a deposit  $P$ , if invested and not withdrawn for  $n$  years.

$\frac{P}{m}$  = the portion which may, if required, be withdrawn on demand.

$i'$  = the rate of interest at which  $\frac{P}{m}$  is invested.

$i$  = a higher rate, at which  $\frac{m-1}{m} \cdot P$ , and the periodic instalments  $\frac{P \cdot i}{m}$  of interest at  $i'$  per pound on  $\frac{P}{m}$ , can be invested during the  $n$  years.

Then it is plain that  $Z_n$  is the amount of  $P$  at  $i$  per pound for  $n$  years, less the amount of a small annuity  $\frac{P}{m} \cdot (i - i')$ , accumulated at  $i$  interest, arising from the lower rate at which  $\frac{P}{m}$  is invested, or

$$Z_n = P \cdot \left\{ (1 + i)^n - \left( \frac{i - i'}{m} \right) \cdot \frac{(1 + i)^n - 1}{i} \right\} \dots \dots (1).$$

This equation contains results afforded by known tables such as those at the end of this work, so that a single deposit table can be readily calculated.

An identical result, but in another form, might be obtained by a different mode of reasoning, in which

$$Z_n = \frac{P}{m} \cdot \left\{ \left[ m - 1 + \frac{i'}{i} \right] \cdot (1 + i)^n + 1 - \frac{i'}{i} \right\} \dots \dots (2).$$

62.—Let the *whole* be withdrawable on demand, then  $m = 1$  in equation (1) or (2),



$$\therefore Z'_n = P \cdot \left\{ (1+i)^n - (i-i') \cdot \frac{(1+i)^n - 1}{i} \right\} \dots\dots (3).$$

or

$$Z'_n = P \cdot \left\{ 1 + i' \cdot \frac{(1+i)^n - 1}{i} \right\} \dots\dots\dots (4).$$

63. Let the  $m^{\text{th}}$  part of  $P$  not be withdrawable for  $\mu$  years, which is the more general case,  $n > \mu$ , then

$$Z_{n|\mu} = P \left\{ (1+i)^n - \left( \frac{i-i'}{m} \right) \cdot \frac{(1+i)^{n-\mu} - 1}{i} \right\} \dots (5).$$

In practice,  $\mu$  might be taken with advantage equal to 3.

Example:—Let £10,000 be deposited for 10 years with the understanding that, after 3 years, £2000 may be withdrawn on demand.—Let 3 per cent. be the annual rate of interest allowed upon the £2000, and 5 per cent. be that upon the £8000, and upon the annuity £60 a year.—Then by eq<sup>n</sup> (5),

$$\begin{aligned} Z_{10|3} &= 10,000 \cdot \left\{ (1.05)^{10} - \frac{.02}{5} \cdot \frac{(1.05)^7 - 1}{.05} \right\} \\ &= 10,000 \{ 1.6288 - .004 \times 8.142 \} \\ &= £15,952. \quad (\text{See Tables 4 and 10}). \end{aligned}$$

64.—To determine a relation between  $Z_p$  and  $Z_q$ , any two terms in Art. 61,  $p < q$ .

Then, referring to the mode of investment,

$$Z_q = Z_p \cdot (1+i)^{q-p} - \frac{P}{m} \cdot (i-i') \cdot \frac{(1+i)^{q-p} - 1}{i} \dots (6).$$

If  $q = p + 1$ , the relation between the successive terms is given by

$$Z_{p+1} = Z_p \cdot (1+i) - \frac{P}{m} \cdot (i-i') \dots\dots\dots (7).$$

a form suitable for the calculation of the table.

65.—Referring to Art. 63, to determine a relation between two terms,  $Z_{p|\mu}$  and  $Z_{q|\mu}$ , where  $p$  and  $q$  are both greater than  $\mu$ .

Since the  $\mu$  years have elapsed, the relation will be identical in form with that (6) of the preceding article, or

$$Z_{q|\mu} = Z_{p|\mu} \cdot (1+i)^{q-p} - \frac{P}{m} \cdot (i-i') \cdot \frac{(1+i)^{q-p} - 1}{i} \dots (8).$$

Let  $q = p + 1$ .

$$\therefore Z_{p+1|\mu} = Z_{p|\mu} \cdot (1+i) - \frac{P}{m} \cdot (i-i') \dots\dots\dots (9).$$

66.—The case where  $p$  is  $< \mu$  and  $q > \mu$  need not be considered, as the

formula would be of no advantage in constructing a table.—Until  $p > \mu$  the equation will be simply  $Z_p = P(1+i)^p$ ; after which equation (9) will serve.

67.—To determine in Art. 63 the remainder of the depositor's claim to be received at the end of the  $n$  years, if he withdraw  $\frac{P}{m}$  when  $n_1$  years ( $n_1 < n$ ) have just expired.

As by the agreement  $n_1$  must be greater than  $\mu$ , the effect produced by the withdrawal of  $\frac{P}{m}$  in reduction of the original amount  $Z_{n_1} \mu$  will be equal to that amount, which by equation (4)  $\frac{P}{m}$  would produce if deposited, for withdrawal on demand, for  $(n - n_1)$  years.

$$\therefore \left. \begin{array}{l} \text{The remainder} \\ \text{of the claim} \end{array} \right\} = Z_{n_1} \mu - \frac{1}{m} \cdot Z'_{(n-n_1)} \dots \dots \dots (10).$$

A simple formula to ascertain the outstanding liabilities of the society upon those deposit shares of which a portion  $\frac{P}{m}$  has been withdrawn.

If the Table represented by  $Z'_n$  should not be ready at hand,

$$\left. \begin{array}{l} \text{The remainder of} \\ \text{the claim may} \\ \text{be calculated as} \end{array} \right\} = \left[ Z_{n_1} \mu - \frac{P}{m} \right] \cdot (1+i)^{n-n_1} \dots \dots \dots (11).$$

68. Again, Art. 63, suppose that the  $m_1^{\text{th}}$  part only be withdrawn after  $n_1$  years, where  $m_1$  is  $> m$ ; then the *Remainder of claim* as regards eq<sup>n</sup> (10) will still be of the same form, viz.

$$Z_{n_1} \mu - \frac{1}{m_1} \cdot Z'_{(n-n_1)}$$

But, in respect to eq<sup>n</sup> (11), it would be represented by the expression

$$\left[ Z_{n_1} \mu - \frac{P}{m_1} \right] \cdot (1+i)^{n-n_1} - P \cdot \frac{m_1 - m}{m \cdot m_1} \cdot (i-i') \cdot \frac{(1+i)^{n-n_1} - 1}{i} \dots (12).$$

Where  $Z_{n_1} \mu$  is a value given by the table used by the society to calculate  $Z_{n_1} \mu$ , and the expression is deduced by considering, according to eq<sup>n</sup> (1), that  $Z_{n_1} \mu - \frac{P}{m_1}$  is a sum of money invested for  $(n - n_1)$  years, with the understanding that a portion of it, equal to  $\left( \frac{P}{m} - \frac{P}{m_1} \right)$ , shall be withdrawable on demand.

If the withdrawal, in the preceding articles, take place in the course of any year, and not exactly at the end thereof, the preceding results would require to be modified with an allowance of simple interest for the fractional part of a year.

*Annuity Deposits.*

69.—Instead of a single deposit, as in Art. 63, let the contract be for a series of periodic deposits, each equal to  $P$ , during the  $n$  years, with the understanding that, after  $\mu$  years have passed, the  $m^{\text{th}}$  part of the aggregate deposits invested may be withdrawn on demand, the remainder of the claim standing over to the end of the term. Then, representing by  $\Sigma_n | \mu$  the amount to which, if not withdrawn, they would accumulate, we have, since by the hypothesis of the question, the  $m^{\text{th}}$  part of all the deposits made, once  $\mu$  years have elapsed, are liable to withdrawal on demand.

$$\Sigma_n | \mu = \{Z_n | \mu + Z_{n-1} | \mu-1 + Z_{n-2} | \mu-2 + \dots + Z_{n-\mu+1} | 1\} \\ + \{Z_{n-\mu} + Z_{n-\mu-1} + \dots + Z_2 + Z_1\} \dots \dots \dots (13).$$

$\Sigma_n | \mu$  thus will be readily found, if the general tables for  $Z_n | \mu$  and  $Z_n$  happen to have been calculated for the society.

70.—If not, the expression can be reduced by eq<sup>n</sup> (1) and (5), Arts. 61 and 63, to

$$\Sigma_{n-\mu} = P \cdot \left\{ \left[ (1+i)^n + (1+i)^{n-1} + \dots + (1+i) \right] - \right. \\ \left. - \left( \frac{i-i'}{m} \right) \cdot \left[ \frac{\mu \cdot (1+i)^{n-\mu} + \left\{ (1+i)^{n-\mu} + (1+i)^{n-\mu-1} + \dots + (1+i) \right\} - n}{i} \right] \right\} \\ = P \cdot \left[ (1+i) \cdot \frac{(1+i)^n - 1}{i} - \left( \frac{i-i'}{m \cdot i} \right) \cdot \left\{ \mu \cdot (1+i)^{n-\mu} + \right. \right. \\ \left. \left. + (1+i) \cdot \frac{1+i^{n-\mu} - 1}{i} - n \right\} \right] \dots \dots \dots (14),$$

which results contain only quantities that can be easily obtained from the ordinary Amount and Annuity Tables 4 and 10.

71.—From the preceding equations, we have, when  $p > \mu$ , a relation between  $\Sigma_{p+1} | \mu$  and  $\Sigma_p | \mu$ .

$$\Sigma_{p+1} | \mu = (\Sigma_p | \mu + P) \cdot (1+i) - (p+1) \cdot \frac{P}{m} (i-i') \dots (15).$$

72.—If a withdrawal take place at the end of  $n_1$  years, and  $n_1 \cdot \frac{P}{m}$  be withdrawn, the *Remainder of the Claim* (if no further payments be made),

$$= \left\{ \Sigma_{n_1} | \mu - n_1 \cdot \frac{P}{m} \right\} \cdot (1+i)^{n-n_1} \dots \dots \dots (16).$$

73.—The preceding principle of adopting *two* rates of interest as the basis

of a *Savings Fund* presents many advantages: on the one hand, greater inducements would be offered to the industrious to strive to effect savings, through the higher interest they may thus obtain; at the same time that the absence of power to withdraw, in a hurry, more than a small portion of their deposits would act as a check upon subsequent extravagance; whilst, on the other hand, the Government or private company which undertook the investment of the money received would be less exposed to inconvenience or loss through withdrawals.

### *On the Purchase of Annuities.*

74.—Let it be desired to calculate the price  $\Phi$  of £1 a year for  $n$  years certain, so that the annuity may pay the purchaser a high rate of interest  $i$  for his money, and yet be sufficient, over and above, to replace the capital  $\Phi$  expended at the expiration of the term, by investing a portion of the annuity to accumulate at a moderate rate of interest  $i'$  per pound. This problem is important, as it not unfrequently happens that a purchaser desires to realize a higher rate of interest for the use of his capital than he could obtain if he tried to reinvest a portion of the annuity; for instance, he may wish the annuity to pay him 6 or 7 per cent., whilst he might not himself be able to reinvest at more than 3 or 4 per cent.

Let £1 a year for  $n$  years amount to  $\Sigma_{i'}$  when accumulated at  $i'$  interest.

Then  $\frac{1}{\Sigma_{i'}}$  is an annuity, which would amount to £1 in the same time at the same rate of interest.

$$\therefore \frac{\Phi}{\Sigma_{i'}} \dots \text{do.} \dots \Phi \text{ do.}$$

$\therefore$  The annuity of £1, which is purchased at a cost of  $\Phi$ , should be sufficient to give the purchaser  $\Phi \cdot i$  a year, and leave  $\frac{\Phi}{\Sigma_{i'}}$  to be invested,

or

$$1 = \Phi \cdot i + \frac{\Phi}{\Sigma_{i'}} \\ \therefore \Phi = \left( i + \frac{1}{\Sigma_{i'}} \right)^{-1} \dots \dots \dots (1).$$

and  $\Phi$  can readily be calculated by the aid of a table which contains the general amounts of annuities  $\Sigma$  (see Table 10). *The same could have been deduced from the remarkable property in eq<sup>n</sup> 4, Art. 28.*

75.—The result in (1), whilst it practically pays the purchaser only  $i$  interest for his capital, through his want of power of reinvesting at a higher rate



than  $i'$ , ( $i' < i$ ), yet in reality is a charge upon the *grantor* of the annuity of a higher rate than  $i$ . For if the rate allowed by him to liquidate a loan of  $\mathcal{E}\Phi$  were only  $i$  per pound,  $\Phi$  would equal

$$\left(i + \frac{1}{\Sigma_i}\right)^{-1}$$

or the purchase-money that he would receive for granting  $\mathcal{E}1$  a year would be more than is shown by equation (1), since  $\Sigma_i > \Sigma_{i'}$ .

76.—The actual rate  $i_2$  that it costs the grantor, who sells  $\mathcal{E}1$  a year at the price afforded by (1), would be obtained from

$$\Phi = \frac{1 - (1 + i_2)^{-n}}{i_2}$$

### *On Deposit Life Assurance.*

77. The system of Deposit Life Assurance presents another feature of provident investment for the savings of the industrious classes. The advantage offered consists of the Savings Banks' facilities of withdrawal of the whole or part of the deposit premium, whilst the benefits of an ordinary life office are secured.

Let  $a_x$  = the present value of an annuity of  $\mathcal{E}1$  on a life aged  $x$ , the first payment being made at once.

$\pi_x$  = the mathematical annual premium to assure the sum of  $\mathcal{E}1$ , payable at the end of the year in which the life  $x$  dies.

$p_x$  = the office annual premium for the same, which is equal to  $a f(\pi_x)$ .

Then from simple reasoning it can be proved that

$$\pi_x = \frac{1}{a_x} - d \dots \dots \dots (1).$$

where  $d = \frac{i}{1+i}$ , the present value of the interest of  $\mathcal{E}1$  due at the end of one year.

It will be observed that this formula is analogous to that for the sinking fund, payable at the *beginning* of each year, to realize  $\mathcal{E}1$  at the *end* of  $(x+1)$  years, (Art. 27) which

$$= \frac{1}{1 + \Phi_x} - d.$$

78.—Let  $S'_x$  = the single premium charged by an office to assure  $\mathcal{E}1$ , payable at the end of the year in which a life aged  $x$  dies.

And let it be stipulated that  $\frac{S'_x}{m}$  may be withdrawn on demand; then for

reasons explained in Art. 59 a lower rate of interest ( $i'$ ) must be allowed to the assured on  $\frac{S'_x}{m}$  than that allowed ( $i$ ) on the non-withdrawable portion  $S'_x \left( \frac{m-1}{m} \right)$ ; therefore the annual interest arising from the investment of  $S'_x$  is  $S'_x \frac{(m-1)i + i'}{m}$ , payable at the end of each year, which is equivalent to  $\frac{S'_x}{m} \{ (m-1)d + d' \}$  at the beginning of each year.

Hence, since an annual premium of  $p_x$  will assure £1 on a life aged  $x$ , the annual interest  $\frac{S'_x}{m} \{ (m-1)d + d' \}$  will assure the sum  $\frac{S'_x}{p_x \cdot m} \{ (m-1)d + d' \}$  on the same life.

$$\therefore S'_x + \frac{S'_x}{p_x \cdot m} \{ (m-1)d + d' \} = £1.$$

$$\text{or, } S'_x = \frac{p_x}{p_x + \frac{S'_x}{m} \{ (m-1)d + d' \}} \dots \dots \dots (1).$$

*Cor.*—If in this equation we take  $p_x = \pi_x$ ,  $i' = i$ , and  $m = 1$ ,

$$S_x = \frac{\pi_x}{\pi_x + d} \dots \dots \dots (2).$$

the ordinary formula expressing the relation between the single premium  $S_x$  and the net annual premium  $\pi_x$  to assure £1 on a life aged  $x$ .

REMARK.—By means of equation (1) a table of Deposit Assurances can be computed from a table of annual premiums, and the Deposit Policies will be with or without profits, according as  $p_x$  is on the participating or non-participating scale.

79.—Suppose an ordinary Annual Premium Policy of Assurance to be taken out by a life aged  $x$  years, and that at the expiration of  $n$  years the assured wish to suspend all future payments and to obtain for his acquired interest in the Company a *Deposit Policy*, then the amount thereof

$$= (\text{office value of old Policy}) \times \left[ 1 + \frac{1}{m} \{ (m-1)d + d' \} \frac{1}{p_{x+n}} \right] \dots \dots (3).$$

(the  $m^{\text{th}}$  part of the office value of the old Policy being withdrawable.)

80.—If after  $n$  years  $\frac{S'_x}{m}$  be withdrawn on a Deposit Policy, the diminution in the Policy

$$= \frac{S'_x}{m} \left\{ 1 + \frac{d'}{p_{x+n}} \right\} \dots \dots \dots (4).$$

and an endorsement should be made on the original Deposit Policy to the effect that it is diminished to the extent given by equation (4).

# TABLES.

TABLE I.

Shewing the *Decimal* corresponding to every Penny in the *Pound*.

s.	d.	Deci- mal.	s.	d.	Deci- mal.	s.	d.	Deci- mal.	s.	d.	Deci- mal.	s.	d.	Deci- mal.	s.	d.	Deci- mal.
0	1	.004	4	1	.204	8	1	.404	12	1	.604	16	1	.804			
0	2	.008	4	2	.208	8	2	.408	12	2	.608	16	2	.808			
0	3	.012	4	3	.212	8	3	.412	12	3	.612	16	3	.812			
0	4	.017	4	4	.217	8	4	.417	12	4	.617	16	4	.817			
0	5	.021	4	5	.221	8	5	.421	12	5	.621	16	5	.821			
0	6	.025	4	6	*.225	8	6	.425	12	6	.625	16	6	.825			
0	7	.029	4	7	.229	8	7	.429	12	7	.629	16	7	.829			
0	8	.033	4	8	.233	8	8	.433	12	8	.633	16	8	.833			
0	9	.037	4	9	.237	8	9	.437	12	9	.637	16	9	.837			
0	10	.042	4	10	.242	8	10	.442	12	10	.642	16	10	.842			
0	11	.046	4	11	.246	8	11	.446	12	11	.646	16	11	.846			
1	0	.050	5	0	.250	9	0	.450	13	0	.650	17	0	.850			
1	1	.054	5	1	.254	9	1	.454	13	1	*.654	17	1	*.854			
1	2	.058	5	2	.258	9	2	.458	13	2	.658	17	2	.858			
1	3	.062	5	3	.262	9	3	.462	13	3	.662	17	3	.862			
1	4	.067	5	4	.267	9	4	.467	13	4	.667	17	4	.867			
1	5	.071	5	5	.271	9	5	.471	13	5	.671	17	5	.871			
1	6	*.075	5	6	.275	9	6	.475	13	6	.675	17	6	.875			
1	7	.079	5	7	.279	9	7	.479	13	7	.679	17	7	.879			
1	8	.083	5	8	.283	9	8	.483	13	8	.683	17	8	.883			
1	9	.087	5	9	.287	9	9	.487	13	9	.687	17	9	.887			
1	10	.092	5	10	.292	9	10	.492	13	10	.692	17	10	.892			
1	11	.096	5	11	.296	9	11	.496	13	11	.696	17	11	.896			
2	0	.100	6	0	.300	10	0	.500	14	0	.700	18	0	.900			
2	1	.104	6	1	.304	10	1	.504	14	1	.704	18	1	.904			
2	2	.108	6	2	.308	10	2	.508	14	2	.708	18	2	.908			
2	3	.112	6	3	.312	10	3	.512	14	3	.712	18	3	.912			
2	4	.117	6	4	.317	10	4	.517	14	4	.717	18	4	.917			
2	5	.121	6	5	.321	10	5	.521	14	5	.721	18	5	.921			
2	6	.125	6	6	.325	10	6	*.525	14	6	.725	18	6	.925			
2	7	.129	6	7	.329	10	7	.529	14	7	.729	18	7	.929			
2	8	.133	6	8	.333	10	8	.533	14	8	.733	18	8	.933			
2	9	.137	6	9	.337	10	9	.537	14	9	.737	18	9	.937			
2	10	.142	6	10	.342	10	10	.542	14	10	.742	18	10	.942			
2	11	.146	6	11	.346	10	11	.546	14	11	.746	18	11	.946			
3	0	.150	7	0	.350	11	0	.550	15	0	.750	19	0	.950			
3	1	.154	7	1	.354	11	1	.554	15	1	*.754	19	1	*.954			
3	2	.158	7	2	.358	11	2	.558	15	2	.758	19	2	.958			
3	3	.162	7	3	.362	11	3	.562	15	3	.762	19	3	.962			
3	4	.167	7	4	.367	11	4	.567	15	4	.767	19	4	.967			
3	5	.171	7	5	.371	11	5	.571	15	5	.771	19	5	.971			
3	6	.175	7	6	*.375	11	6	.575	15	6	.775	19	6	.975			
3	7	.179	7	7	.379	11	7	.579	15	7	.779	19	7	.979			
3	8	.183	7	8	.383	11	8	.583	15	8	.783	19	8	.983			
3	9	.187	7	9	.387	11	9	.587	15	9	.787	19	9	.987			
3	10	.192	7	10	.392	11	10	.592	15	10	.792	19	10	.992			
3	11	.196	7	11	.396	11	11	.596	15	11	.796	19	11	.996			
4	0	.200	8	0	.400	12	0	.600	16	0	.800	20	0	1.000			

\*Example.—The value of the Decimal .075, is 1s. 6d.—.225, is 4s. 6d.—.375, is 7s. 6d.—.525, is 10s. 6d.—.654, is 13s. 1d.—.754, is 15s. 1d.—.854, is 17s. 1d.—.954, is 19s. 1d.

TABLE II.

(A.) *Shewing the sum per Pound to which a Rate of Interest per cent. is equivalent.*

2 per cent interest is equal to nearly $\begin{matrix} s. & d. \\ 0 & 5 \end{matrix}$ in the pound.			
$2\frac{1}{2}$	"	"	exactly 0 6 "
3	"	"	nearly 0 $7\frac{1}{4}$ "
$3\frac{1}{2}$	"	"	" 0 $8\frac{1}{2}$ "
4	"	"	" 0 $9\frac{3}{4}$ "
$4\frac{1}{2}$	"	"	" 0 11 "
5	"	"	exactly 1 0 "
$5\frac{1}{2}$	"	"	nearly 1 $1\frac{1}{4}$ "
6	"	"	" 1 $2\frac{1}{2}$ "
7	"	"	" 1 5 "
8	"	"	" 1 $7\frac{1}{4}$ "
9	"	"	" 1 $9\frac{3}{4}$ "
10	"	"	exactly 2 0 "

(B.) *To calculate the Interest for One Year on any sum.*

If the rate be } multiply the sum } and the product is the  
 2 per cent. } by .02 or  $\frac{1}{50}$  } interest required

If $2\frac{1}{2}$	"	by .025 or $\frac{1}{40}$	" "
If 3	"	by .03 or $\frac{3}{100}$	" "
If $3\frac{1}{2}$	"	by .035 or $\frac{7}{200}$	" "
If 4	"	by .04 or $\frac{1}{25}$	" "
If $4\frac{1}{2}$	"	by .045 or $\frac{9}{200}$	" "
If 5	"	by .05 or $\frac{1}{20}$	" "
If 6	"	by .06 or $\frac{3}{50}$	" "
If 7	"	by .07 or $\frac{7}{100}$	" "
If 8	"	by .08 or $\frac{2}{25}$	" "
If 9	"	by .09 or $\frac{9}{100}$	" "
If 10	"	by .1 or $\frac{1}{10}$	" "

REMARK.—To perform the above, it will be remembered that to multiply a quantity by a fraction it must be first multiplied by the numerator, and then the result divided by the denominator of the fraction. The division by 100 can be effected by dividing twice by 10. Similarly the other divisors can be separated, and the quotient obtained by successive divisions.

## Note to Table IV., page 4.

Table IV. can, by means of the following Formulæ, be made to give the results generally required from Tables of Discount or Annuities.

- Table IX. The present value of £100 due at } is equal { £100 divided by the Amount, in Table IV., of  
 the end of any number of years } to { £1 at the end of the same time.
- Table X. The Amount of an Annuity of £100 } is equal { The quotient of: (the Amount in Table IV., of  
 in any number of years } to { a single £100 in the same time, less £100,) (divided by the rate of interest per pound) involved in the calculation.
- Table XI. The present value of an Annuity of } is equal { The quotient of £100 diminished by the present  
 £100 for any number of years } to { value of a single £100, (due at the end of the same time) divided by the rate of interest per pound.\*
- Tables X and XI may be calculated from each other, if either be known, by the property, that

$$\frac{\text{Present Value of an Annuity.}}{\text{Amount of an Annuity.}} \text{ less } \frac{1}{\text{Amount of an Annuity.}} \text{ is equal to } \frac{1}{\text{a year's interest.}}$$

\* [The present value required for the division being found from Table IV., by the formula of (1).]



TABLE III.

Shewing the RATE OF INTEREST obtainable from £3 per cent. Stock for £100 cash invested according to the price of the day.

Price of Stock. (1.)	Interest which £100 cash obtains. (2.)			Amount of Stock £100 will purchase, or amount of Stock required to be sold to produce £100. (3.)			*Most recent years in which the average price of Consols was that of (1.)
	£	s.	d.	£.	s.	d.	
60	5	0	0	166	13	4	1815
61	4	18	9	163	18	9	1813
62	4	16	9	161	5	10	1816
63	4	15	3	158	14	8	
64	4	13	9	156	5	0	1811
65	4	12	3	153	16	11	
66	4	10	11	151	10	4	1808
67	4	9	7	149	5	1	1814
68	4	8	3	147	1	2	1820
69	4	7	0	144	18	7	
70	4	5	9	142	17	2	
71	4	4	6	140	16	11	
72	4	3	4	138	17	8	1819
73	4	2	2	136	19	9	1817
74	4	1	1	135	2	9	1821
75	4	0	0	133	6	8	1788
76	3	18	11	131	11	7	1793
77	3	17	11	129	17	5	
78	3	16	11	128	4	1	1777
79	3	15	11	126	11	8	1826
80	3	15	0	125	0	0	1831
81	3	14	1	123	9	2	
82	3	13	2	121	19	0	1760
83	3	12	4	120	9	8	1827
84	3	11	5	119	0	11	1832
85	3	10	7	117	12	11	1848
86	3	9	9	116	5	7	1847
87	3	9	0	114	18	10	1773
88	3	8	2	113	12	9	1833
89	3	7	5	113	7	2	1841
90	3	6	8	111	2	3	1855
91	3	5	11	109	17	10	1856
92	3	5	3	108	13	11	1842
93	3	4	6	107	10	7	1849
94	3	3	10	106	7	8	1744
95	3	3	2	105	5	3	1843
96	3	2	6	104	3	4	1853
97	3	1	10	103	1	10	1850
98	3	1	3	102	0	10	1851
99	3	0	7	101	0	3	1852
100	3	0	0	100	0	0	1751
101	2	19	4	99	0	2	1743

\* [The average price of Consols for the whole of the 100 years, 1759 to 1858, is about 78½. During that period the average price for the whole of a year was never at or above par. The average for several months of the year 1852 was above 100. It is curious, however, that during several years previous to 1759, the average price for the whole of the year was at or above par: thus, in 1733, '42, '50, and '51, it was 100; in 1739 and '43, 101; in '36, 102; '54, 103; '38, '52, and '53, 104; and in 1737 it was as high as 106. On the other hand, between 1781 and 1815, there were ten years in which the average fell below 60. Between 1822 and 1831, a medium price of about 80 was kept to.]

TABLE IV.

*Shewing the Amount to which £100 Principal will increase at various Rates of Compound yearly Interest. (See Note, page 2.)*

At the end of Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	103.00	104.00	105.00	106.00	107.00	108.00
2	106.09	108.16	110.25	112.36	114.49	116.64
3	109.27	112.48	115.76	119.10	122.50	125.97
4	112.55	116.98	121.55	126.24	131.07	136.04
5	115.92	121.66	127.62	133.82	140.25	146.93
6	119.40	126.53	134.00	141.85	150.07	158.68
7	122.98	131.59	140.71	150.36	160.57	171.38
8	126.67	136.85	147.74	159.88	171.81	185.09
9	130.47	142.33	155.13	168.94	183.84	199.90
10	134.39	148.02	162.88	179.08	196.71	215.89
11	138.42	153.94	171.03	189.82	210.48	233.16
12	142.57	160.10	179.58	201.21	225.21	251.81
13	146.85	166.50	188.56	213.29	240.98	271.96
14	151.25	173.16	197.99	226.09	257.85	293.71
15	155.79	180.09	207.89	239.65	275.90	317.21
16	160.47	187.29	218.28	254.03	295.21	342.59
17	165.28	194.79	229.20	269.27	315.88	370.00
18	170.24	202.58	240.66	285.43	337.99	399.60
19	175.35	210.68	252.69	302.55	361.65	431.57
20	180.61	219.11	265.32	320.71	386.96	466.09
21	186.02	227.87	278.59	339.95	414.05	503.38
22	191.61	236.99	292.52	360.35	443.04	543.65
23	197.35	246.47	307.15	381.97	474.05	587.14
24	203.27	256.33	322.50	404.89	507.23	634.11
25	209.37	266.58	338.63	429.18	542.74	684.84
26	215.65	277.24	355.56	454.93	580.73	739.63
27	222.12	288.33	373.34	482.23	621.38	798.80
28	228.79	299.87	392.01	511.16	664.88	862.71
29	235.65	311.86	411.61	541.83	711.42	931.72
30	* 242.72	324.34	* 432.19	574.34	761.22	1006.26
31	250.00	337.31	453.80	608.81	814.51	1086.76
32	257.50	350.80	476.49	645.33	871.52	1173.70
33	265.23	364.83	500.31	684.05	932.53	1267.60
34	273.19	379.43	525.33	725.10	997.81	1369.01
35	281.38	394.60	551.60	768.60	1067.65	1478.53
36	289.82	410.39	579.18	814.72	1142.39	1596.81
37	298.52	426.80	608.14	863.60	1222.36	1724.56
38	307.47	443.88	638.54	915.42	1307.92	1862.52
39	316.70	461.63	670.47	970.35	1399.48	2011.52
40	326.20	480.10	703.99	1028.57	1497.44	2172.45
41	335.99	499.30	739.19	1090.28	1602.26	2346.24
42	346.06	519.27	776.15	1155.70	1714.42	2533.94
43	356.45	540.04	814.96	1225.04	1834.43	2736.66
44	367.14	561.65	855.71	1298.54	1962.84	2955.59
45	378.15	584.11	898.50	1376.46	2100.24	3192.04
46	389.50	607.48	943.42	1459.04	2247.26	3447.40
47	401.18	631.78	990.59	1546.59	2404.57	3723.20
48	413.22	657.05	1040.12	1639.38	2572.89	4021.05
49	425.62	683.33	1092.13	1737.75	2752.99	4342.74
50	438.39	710.66	1146.74	1842.01	2945.70	4690.16

\* EXAMPLE.—£100 will amount at the end of 30 years to £242. 14s. 5d., if interest be made at the rate of 3 per cent. per annum, or to £432 3s. 10d. at 5 per cent.

Notes:—1.—To find the present value of a sum of money payable at the end of any number of years, divide that sum by the amount in the above Table and multiply by 100.

2.—To find the amount of £100 at the end of any number of years not given in the above Table, take the product of the figures opposite any two terms in the Table, which, added together, would make up the term required, and divide by 100. Thus, the amount of £100 at the end of 53 years, (50 years and 3 years), is, at 5 per cent., (£1146.74 × 115.76) or £1327.47. Again, the amount of £100 at 3 per cent. at the end of 100 years (50 + 50) is (£438.39 × 438.39), or £1921.86. See also Note, page 2.

TABLE V.

*Shewing the Rates of Interest payable only once a-year, which are equivalent to nominal annual rates of Interest actually paid at frequent intervals in each year.*

Nominal Annual Rate per cent.	Real yearly interest, to which the nominal rates are equivalent when paid:—				
	Yearly.	Half-yearly.	Quarterly.	Monthly.	Momently.
3 per cent.	£. s. d. 3 0 0	£. s. d. 3 0 5½	£. s. d. 3 0 8¼	£. s. d. 3 0 10	£. s. d. 3 0 11
4 per cent.	4 0 0	4 0 9¾	4 1 2½	4 1 6	4 1 7¾
5 per cent.	5 0 0	*5 1 3	5 1 10¾	5 2 4	5 2 6½
6 per cent.	6 0 0	6 1 9¾	6 2 8¾	6 3 4	6 3 8¼
7 per cent.	7 0 0	7 2 5½	7 3 8¾	7 4 7	7 5 0¼
8 per cent.	8 0 0	8 3 2½	8 4 10½	8 6 0	8 6 7

\* *Example.*—If a person receives interest half-yearly, after the *nominal* annual rate of 5 per cent., the actual interest derived by him by one year's investment is £5. 1s. 3d.

TABLE VI.

*Shewing the nominal Annual Rates of Interest paid momently, which are equivalent to rates paid at the end of each year.*

Yearly Rate.	Corresponding momentaneous Rate.	Yearly Rate.	Corresponding momentaneous Rate.
	£. s. d.		£. s. d.
2 per cent.	£1.9802 or 1 19 7½	7 per cent.	£6.7658 or 6 15 4
3    "	2.9558    2 19 1½	8    "	7.6791    7 13 11¼
4    "	3.9220    3 18 5½	9    "	8.6177    8 12 4¼
5    "	4.8790    *4 17 7	10   "	9.5310    9 10 7½
6    "	5.8268    5 16 6½		

\* *Example.*—The amount to which a sum of money will accumulate in any number of years at *yearly* interest 5 per cent., is the same as the amount to which it would accumulate at *momentaneous* interest, after the nominal annual rate of £4. 17s. 7d. per cent.

TABLE VII.

*Shewing the Amount to which £100 will increase at Compound Interest, according as it is paid yearly, half-yearly, quarterly, or momentarily. [See Table IV.]*

Nominal rate of Interest.	Payable.	The Amount of £100 in			
		1 Year.	5 Years.	25 Years	50 Years.
3 per cent.	yearly	103.000	115.927	209.378	438.391
	half-yearly	103.022	116.054	210.524	443.204
	quarterly	103.034	116.119	211.108	445.667
	momently	103.045	116.183	211.700	448.169
4 per cent.	yearly	104.000	121.665	266.584	710.668
	half-yearly	104.040	121.899	269.159	724.465
	quarterly	104.060	122.019	270.481	731.602
	momently	104.081	122.140	271.828	738.906
5 per cent.	yearly	105.000	127.628	338.634	1146.740
	half-yearly	105.062	128.008	343.711	1181.372
	quarterly	105.095	128.204	346.340	1199.517
	momently	105.127	128.402	349.034	1218.249
6 per cent.	yearly	106.000	133.823	429.187	1842.015
	half-yearly	106.090	134.392	438.391	1921.863
	quarterly	106.136	134.685	443.204	1964.303
	momently	106.184	134.986	448.169	2008.553
7 per cent.	yearly	107.000	140.255	542.743	2945.703
	half-yearly	107.122	141.060	558.493	3119.141
	quarterly	107.186	141.478	566.816	3212.799
	momently	107.251	141.907	575.460	3311.545
8 per cent.	yearly	108.000	146.933	684.847	4690.161
	half-yearly	108.160	148.024	710.668	5050.495
	quarterly	108.243	148.595	724.465	5248.490
	momently	108.329	149.182	738.906	5459.815

TABLE VIII.

*Time in which Money will double itself at Simple or Compound yearly Interest.*

Rate Per cent.		At Simple Interest.	At Compound Interest.		
		Years.	Years.	Years.	Days.
2	£1 or any other sum will double itself in	50.0000	35.00278878	= 35	2
2½		40.0000	28.07103453	= 28	26
3		33.3333	23.44977225	= 23	165
3½		28.5714	20.14879168	= 20	55
4		25.0000	17.67298769	= 17	246
4½		22.2222	15.74730184	= 15	272
5		20.0000	14.20669908	= 14	76
6		16.6666	11.89566105	= 11	327
7		14.2857	10.24476835	= 10	90
8		12.5000	9.00646834	= 9	3
9		11.1111	8.04323173	= 8	16
10		10.0000	7.27254090	= 7	100

As to the time in which Money Doubles, see Chapter 2, and the Appendix, for our remarkable theorem, that—for all rates per cent. under 10 per cent., the number of years in which a sum of money will Double itself at compound interest, is simply 70 divided by the rate per cent.

EXAMPLES.—1.—Divide 70 by the rate of interest per cent., and take that whole number which is nearest to the quotient obtained. Thus, if the rate of interest be—

2 per cent., then the number of years will be  $\frac{70}{2}$  or 35 years nearly.

3½ " " "  $\frac{70}{3\frac{1}{2}}$  " 20 " "

5 " " "  $\frac{70}{5}$  " 14 " "

8 " " "  $\frac{70}{8}$  " 9 " "

10 " " "  $\frac{70}{10}$  " 7 " "

2.—The time in which money doubles being thus ascertained, to find the further time in which it will become *threefold*, divide the doubling period by 1.70; *fourfold*, by 2.40; *fivefold*, by 3.10; *sixfold*, by 3.80; and so on, the divisor increasing in arithmetical progression by .70 each time.

Thus, since money doubles at 5 per cent. in 14 years, it would become *threefold* in  $\frac{14}{1.70}$  or eight years more, making 22 together; *fourfold*, in  $\frac{14}{2.40}$  or six years more, or 28 years altogether; and so on.



TABLE IX.

*Shewing the present Value of £100 payable at the end of any number of Years, at various Rates of Interest.*

This Table will serve to determine the *present value* of Shares in a Building Society, or the sum which must be given at once to obtain a *paid-up* Share, which is to be received at the end of a specified number of years.

Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	97.08	96.15	95.23	94.33	93.45	92.59
2	94.25	92.45	90.70	88.99	87.34	85.73
3	91.51	88.89	86.38	83.96	81.62	79.38
4	88.84	85.48	82.27	79.20	76.28	73.50
5	86.26	82.19	78.35	74.72	71.29	68.05
6	83.74	79.03	74.62	70.49	66.63	63.01
7	81.30	75.99	71.06	66.50	62.27	58.34
8	78.94	73.06	67.68	62.74	58.20	54.02
9	76.64	70.25	64.46	59.18	54.39	50.02
10	74.40	67.55	*61.39	55.83	50.83	46.31
11	72.24	64.95	58.46	52.67	47.50	42.88
12	70.13	62.45	55.68	49.69	44.40	39.71
13	68.09	60.05	53.03	46.88	41.49	36.76
14	66.11	57.74	50.50	44.23	38.78	34.04
15	64.18	55.52	48.10	41.72	36.24	31.52
16	62.31	53.39	45.81	39.36	33.87	29.18
17	60.50	51.33	43.62	37.13	31.65	27.02
18	58.73	49.36	41.55	35.03	29.58	25.02
19	57.02	47.46	39.57	33.05	27.65	23.17
20	55.36	45.63	37.68	31.18	25.84	21.45
21	53.75	43.88	35.89	29.41	24.15	19.86
22	52.18	42.19	34.18	27.75	22.57	18.39
23	50.66	40.57	32.55	26.18	21.09	17.03
24	49.19	39.01	31.00	24.69	19.71	15.77
25	47.76	37.51	29.53	23.30	18.42	14.60
26	46.36	36.06	28.12	21.98	17.21	13.52
27	45.01	34.68	26.78	20.73	16.09	12.51
28	43.70	33.34	25.50	19.56	15.04	11.59
29	42.43	32.06	24.29	18.45	14.05	10.73
30	41.19	30.83	23.13	17.41	13.13	9.93
31	39.99	29.64	22.03	16.42	12.27	9.20
32	38.83	28.50	20.98	15.49	11.47	8.52
33	37.70	27.40	19.93	14.61	10.72	7.88
34	36.60	26.35	19.03	13.79	10.02	7.30
35	35.53	25.34	18.12	13.01	9.36	6.76
36	34.50	24.36	17.26	12.27	8.75	6.26
37	33.49	23.42	16.44	11.57	8.18	5.79
38	32.52	22.52	15.66	10.92	7.64	5.36
39	31.57	21.66	14.91	10.30	7.14	4.97
40	30.65	20.82	14.20	9.72	6.67	4.60
41	29.76	20.02	13.52	9.17	6.24	4.26
42	28.89	19.25	12.88	8.65	5.83	3.94
43	28.05	18.51	12.27	8.16	5.45	3.65
44	27.23	17.80	11.68	7.70	5.09	3.38
45	26.44	17.12	11.12	7.26	4.76	3.13
46	25.67	16.46	10.59	6.85	4.45	2.90
47	24.92	15.82	10.09	6.46	4.15	2.68
48	24.20	15.21	9.61	6.10	3.88	2.48
49	23.49	14.63	9.15	5.75	3.63	2.30
50	22.81	14.07	8.72	5.42	3.39	2.13

\* *Example.*—If a member of a Building Society desire to purchase by a single payment a Share, whose amount is £100, to be received at the end of 10 years, and the rate of interest be 5 per cent., he must pay £61.39 or £61. 7s. 11d. for the same; a modification of course being made in the case of *monthly* payments

[Refer to Note No. 2, at foot of Table IV, page 4, for any time beyond 50 years.]

TABLE X.

See Remarks, No. 2, at foot of page 2.]

*Shewing the Amount to which an Annuity of £100, paid at the end of each year, will accumulate at Compound Interest.*

This Table will serve to determine the yearly subscription requisite to purchase an investing share in a Building Society

Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent.	10 per cent.
1	100.00	100.00	100.00	100.00	100.00	100.00
2	203.00	204.00	205.00	206.00	207.00	210.00
3	309.09	312.16	315.25	318.36	321.49	331.00
4	418.36	424.64	431.01	437.46	443.99	464.10
5	530.91	541.63	552.56	563.70	575.07	610.51
6	646.84	663.29	680.19	697.53	715.32	771.56
7	766.24	789.82	814.20	839.38	865.40	948.71
8	889.23	921.42	954.91	989.74	1025.98	1143.58
9	1015.91	1058.27	1102.65	1149.13	1197.79	1357.94
10	1146.38	1200.61	1257.78	1318.07	1381.64	1593.74
11	1280.77	1348.63	*1420.67	1497.16	1578.35	1853.11
12	1419.20	1502.58	1591.71	1686.99	1788.84	2138.42
13	1561.77	1662.68	1771.29	1888.21	2014.06	2452.27
14	1708.63	1829.19	1959.86	2101.50	2255.04	2797.49
15	1859.89	2002.35	2157.85	2327.59	2512.90	3177.24
16	2015.68	2182.45	2365.74	2567.25	2788.80	3594.97
17	2176.15	2369.75	2584.03	2821.28	3084.02	4054.47
18	2341.44	2564.54	2813.23	3090.56	3399.90	4559.91
19	2511.68	2767.12	3053.90	3375.99	3737.89	5115.90
20	2687.03	2977.80	3306.59	3678.55	4099.54	5727.49
21	2867.64	3196.92	3571.92	3999.27	4486.51	6400.24
22	3053.67	3424.79	3850.52	4339.22	4900.57	7140.27
23	3245.28	3661.78	4143.04	4699.58	5343.61	7954.30
24	3442.64	3908.26	4450.19	5081.55	5817.66	8849.73
25	3645.92	4164.59	4772.70	5486.45	6324.90	9834.70
26	3855.30	4431.17	5111.34	5915.63	6867.64	10918.17
27	4070.96	4708.42	5466.91	6370.57	7448.38	12109.99
28	4293.09	4996.75	5840.25	6852.81	8069.76	13420.99
29	4521.88	5296.62	6232.27	7363.97	8734.65	14863.09
30	4757.54	5608.49	6643.88	7905.81	9446.07	16449.40
31	5000.26	5932.83	7076.07	8480.16	10207.30	18194.34
32	5250.27	6270.14	7529.88	9088.97	11021.81	20113.77
33	5507.78	6620.95	8006.37	9734.31	11893.34	22225.15
34	5773.01	6985.79	8506.69	10418.37	12825.87	24547.66
35	6046.20	7365.22	9031.03	11143.47	13823.68	27102.43
36	6327.59	7759.83	9583.63	11912.08	14891.34	29912.68
37	6617.42	8170.22	10162.81	12726.81	16033.74	33003.94
38	6915.94	8597.03	10770.93	13590.42	17256.10	36404.34
39	7223.42	9040.91	11409.50	14505.84	18564.02	40144.77
40	7540.12	9502.55	12079.97	15476.19	19963.51	44259.25
41	7866.32	9982.65	12783.97	16504.76	21460.95	48785.18
42	8202.31	10481.95	13523.17	17595.05	23063.22	53763.69
43	8548.38	11001.23	14299.33	18750.75	24777.64	59240.06
44	8904.84	11541.28	15114.30	19975.80	26612.08	65264.07
45	9271.98	12102.93	15970.01	21274.35	28574.93	71890.48
46	9650.14	12687.05	16868.51	22650.81	30675.17	79179.53
47	10039.65	13294.53	17811.94	24109.86	32922.43	87197.48
48	10440.84	13926.32	18802.53	25656.45	35327.00	96017.23
49	10854.06	14583.37	19842.66	27295.84	37899.90	105718.95
50	11279.68	15266.70	20934.79	29033.59	40652.89	116390.85

[NOTE — The above Table will also serve to determine the amount of an Annuity paid at the beginning of each year.

For the amount of an Annuity for  $n$  years paid } = { the amount of an Annuity (for  $n + 1$ ) years  
at the beginning of each year. } from above Table — 100.

\* Example.—The amount of an Annuity of £100 at 5 per cent. for 10 years paid at the beginning of each year = £1420.67—£100.  
= £1320.67.]

TABLE XI.

[See Remarks No. 3, at foot of page 2.]

*Shewing the present Value of an Annuity of £100 at the end of each Year.*

Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	97.08	96.15	95.23	94.33	93.45	92.59
2	191.34	188.60	185.94	183.33	180.80	178.32
3	282.86	277.50	272.32	267.30	262.43	257.70
4	371.70	362.98	354.59	346.51	338.72	331.21
5	457.97	445.18	432.94	421.23	410.01	399.27
6	541.71	524.21	507.56	491.73	476.65	462.28
7	623.02	600.20	578.63	558.23	538.92	520.63
8	701.96	673.27	646.32	620.97	597.12	574.66
9	778.61	743.53	*710.78	680.16	651.52	624.68
10	853.02	811.08	772.17	736.00	702.35	671.00
11	925.26	876.04	830.64	788.68	749.86	713.89
12	995.40	938.50	886.32	838.38	794.26	753.60
13	1063.49	998.56	939.35	885.26	835.76	790.37
14	1129.60	1056.31	989.86	929.49	874.54	824.42
15	1193.79	1111.83	1037.96	971.22	910.79	855.94
16	1256.11	1165.22	1083.77	1010.58	944.66	885.13
17	1316.61	1216.56	1127.40	1047.72	976.32	912.16
18	1375.35	1265.92	1168.95	1082.76	1005.90	937.18
19	1432.37	1313.39	1208.53	1115.81	1033.55	960.35
20	1487.74	1359.03	1246.22	1146.99	1059.40	981.81
21	1541.50	1402.91	1282.11	1176.40	1083.55	1001.68
22	1593.69	1445.11	1316.30	1204.15	1106.12	1020.67
23	1644.36	1485.68	1348.85	1230.33	1127.21	1037.10
24	1693.55	1524.69	1379.86	1255.03	1146.93	1052.87
25	1741.31	1562.20	1409.39	1278.33	1165.35	1067.47
26	1787.68	1598.27	1437.51	1300.31	1182.57	1080.99
27	1832.70	1632.95	1464.30	1321.05	1198.67	1093.51
28	1876.41	1666.30	1489.81	1340.61	1213.71	1105.10
29	1918.84	1698.37	1514.10	1359.07	1227.76	1115.84
30	1960.04	1729.20	1537.24	1376.48	1240.90	1125.77
31	2000.04	1758.84	1559.28	1392.90	1253.18	1134.97
32	2038.87	1787.35	1580.26	1408.40	1264.65	1143.49
33	2076.57	1814.76	1600.25	1423.02	1275.37	1151.38
34	2113.18	1841.11	1619.29	1436.81	1285.40	1158.69
35	2148.72	1866.46	1637.41	1449.82	1294.76	1165.45
36	2183.22	1890.82	1654.68	1462.09	1303.52	1171.71
37	2216.72	1914.25	1671.12	1473.67	1311.70	1177.51
38	2249.24	1936.78	1686.78	1484.60	1319.34	1182.88
39	2280.82	1958.44	1701.70	1494.90	1326.49	1187.85
40	2311.47	1979.27	1715.90	1504.62	1333.17	1192.46
41	2341.24	1999.30	1729.43	1513.80	1339.41	1196.72
42	2370.13	2018.56	1742.32	1522.45	1345.24	1200.66
43	2398.19	2037.07	1754.59	1530.61	1350.69	1204.32
44	2425.42	2054.88	1766.27	1538.31	1355.79	1207.70
45	2451.87	2072.00	1777.40	1545.58	1360.55	1210.84
46	2477.54	2088.46	1788.00	1552.43	1365.00	1213.74
47	2502.47	2104.29	1798.10	1558.90	1369.16	1216.42
48	2526.67	2119.51	1807.71	1565.00	1373.04	1218.91
49	2550.16	2134.14	1816.87	1570.76	1376.67	1221.21
50	2572.97	2148.21	1825.59	1576.18	1380.07	1223.34
Perpetuity	3333.33	2500.00	2000.00	1666.67	1428.57	1250.00

[NOTE.—The above Table will serve to determine the present value of an Annuity paid at the *beginning* of each year,

For, the present value of an annuity of £100, paid } = { the present value of an annuity  
 at the beginning of each year, for  $n$  years } for  $(n-1)$  years + 100

\* Example.—The present value at 5 per cent. of £100 a year paid at the beginning of each year for ten years = £710.78 + £100.  
 = £810.78.]



TABLE XII.

*Shewing the Annuity which £100 will purchase for a given number of Years.*

This Table will serve to determine the Annuity to be paid by a borrowing member of a Building Society in repayment of a given advance.

Years.	3 per cent.	5 per cent.	7 per cent.	8 per cent.	9 per cent.	10 per cent.
1	103.00	105.00	107.00	108.00	109.00	110.00
2	52.26	53.78	55.31	56.08	56.85	57.62
3	35.35	36.72	38.11	38.80	39.51	40.21
4	26.90	28.20	29.52	30.19	30.87	31.55
5	21.84	23.10	24.39	25.05	25.71	26.38
6	18.46	19.70	20.98	21.63	22.29	22.96
7	16.05	17.28	18.56	19.21	19.87	20.54
8	14.25	15.47	16.75	17.40	18.07	18.74
9	12.84	14.07	15.35	16.01	16.68	17.36
10	11.72	12.95	*14.24	14.90	15.58	16.27
11	10.81	12.04	13.34	14.01	14.69	15.40
12	10.05	11.28	12.59	13.27	13.97	14.68
13	9.40	10.65	11.97	12.65	13.36	14.08
14	8.85	10.10	11.43	12.13	12.84	13.58
15	8.37	9.63	10.98	11.68	12.41	13.15
16	7.96	9.23	10.59	11.30	12.03	12.78
17	7.60	8.87	10.24	10.96	11.70	12.47
18	7.27	8.55	9.94	10.67	11.42	12.19
19	6.98	8.27	9.68	10.41	11.17	11.95
20	6.72	8.02	9.44	10.19	10.95	11.75
21	6.49	7.80	9.23	9.98	10.76	11.56
22	6.28	7.60	9.04	9.80	10.59	11.40
23	6.08	7.41	8.87	9.64	10.44	11.26
24	5.91	7.25	8.72	9.50	10.30	11.13
25	5.74	7.10	8.58	9.37	10.18	11.02
26	5.59	6.96	8.46	9.25	10.07	10.92
27	5.46	6.83	8.34	9.15	9.97	10.83
28	5.33	6.71	8.24	9.05	9.89	10.75
29	5.21	6.60	8.15	8.96	9.81	10.67
30	5.10	6.51	8.06	8.88	9.73	10.61
31	5.00	6.41	7.98	8.81	9.67	10.55
32	4.90	6.33	7.91	8.74	9.61	10.50
33	4.82	6.25	7.84	8.68	9.56	10.45
34	4.73	6.18	7.77	8.63	9.51	10.40
35	4.65	6.11	7.72	8.58	9.46	10.37
36	4.58	6.04	7.67	8.53	9.42	10.33
37	4.51	5.98	7.62	8.49	9.39	10.30
38	4.45	5.93	7.58	8.45	9.35	10.27
39	4.38	5.88	7.54	8.42	9.32	10.25
40	4.33	5.83	7.50	8.39	9.30	10.23
41	4.27	5.78	7.47	8.36	9.27	10.21
42	4.22	5.74	7.43	8.33	9.25	10.19
43	4.17	5.70	7.40	8.30	9.23	10.17
44	4.12	5.66	7.38	8.28	9.21	10.15
45	4.08	5.63	7.35	8.26	9.19	10.14
46	4.04	5.59	7.33	8.24	9.17	10.13
47	4.00	5.56	7.30	8.22	9.16	10.11
48	3.96	5.53	7.28	8.20	9.15	10.10
49	3.92	5.50	7.26	8.19	9.13	10.09
50	3.89	5.48	7.25	8.17	9.12	10.08
Perpetuity	3.00	5.00	7.00	8.00	9.00	10.00

*Example.*—If a member borrow £100 for 10 years to be repaid by equal instalments, including principal and interest, at 7 per cent., in that time, he must pay £14.24 or nearly £14. 5s. a year in repayment for the same.

From this Table may also be calculated the annual sinking fund to accumulate to £100 in any number of years. *Ex:* The sinking fund to produce £100 in 12 years at 5 per cent. is equal to £11.28 less the interest, or to £6.28, which is £6. 5s. 8d. nearly



TABLE XIII.

*Monthly and Quarterly payments, spread over any number of years from 3 to 21, that will repay a Loan of £100 with interest at 4, 5, 6, and 7 per cent. per annum.*

Term of Years.	4 per cent.		5 per cent.		6 per cent.		7 per cent.	
	Monthly.	Quarterly.	Monthly.	Quarterly.	Monthly.	Quarterly.	Monthly.	Quarterly.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
3	3 0 1	9 0 3	3 1 3	9 3 9	3 2 4	9 7 0	3 3 6	9 10 6
4	2 6 0	6 18 0	2 7 0	7 1 0	2 8 1	7 4 3	2 9 2	7 7 6
5	1 17 6	5 12 6	1 18 6	5 15 6	1 19 7	5 18 9	2 0 8	6 2 0
6	1 11 10	4 15 6	1 12 10	4 18 6	1 13 11	5 1 9	1 15 0	5 5 0
7	1 7 10	4 3 6	1 8 10	4 6 6	1 9 10	4 9 6	1 11 0	4 13 0
8	1 4 10	3 14 6	1 5 10	3 17 6	1 6 10	4 0 6	1 7 11	4 3 9
9	1 2 6	3 7 6	1 3 6	3 10 6	1 4 6	3 13 6	1 5 7	3 16 9
10	1 0 7	3 1 9	1 1 8	3 5 0	1 2 8	3 8 0	1 3 9	3 11 3
11	0 19 1	2 17 3	1 0 1	3 0 3	1 1 2	3 3 6	1 2 3	3 6 9
12	0 17 10	2 13 6	0 18 10	2 16 6	0 19 11	2 19 9	1 1 0	3 3 0
13	0 16 9	2 10 3	0 17 9	2 13 3	0 18 10	2 16 6	0 19 11	2 19 9
14	0 15 10	2 7 6	0 16 11	2 10 9	0 17 11	2 13 9	0 19 1	2 17 3
15	0 15 0	2 5 0	0 16 1	2 8 3	0 17 2	2 11 6	0 18 4	2 15 0
16	0 14 4	2 3 0	0 15 5	2 6 3	0 16 6	2 9 6	0 17 8	2 13 0
17	0 13 9	2 1 3	0 14 9	2 4 3	0 15 11	2 7 9	0 17 1	2 11 3
18	0 13 2	1 19 6	0 14 3	2 2 9	0 15 5	2 6 3	0 16 7	2 9 9
19	0 12 9	1 18 3	0 13 10	2 1 6	0 14 11	2 4 9	0 16 2	2 8 6
20	0 12 4	1 17 0	0 13 5	2 0 3	0 14 6	2 3 6	0 15 9	2 7 3
21	0 11 11	1 15 9	0 13 0	1 19 0	0 14 2	2 2 6	0 15 5	2 6 3

*Note.*—The Quarterly payments are three times those of the Monthly, in accordance with the custom of Societies, and, therefore, in some cases exceed the actual amount by one penny.

TABLE XIV.

## OLD AGE AND ENDOWMENT TABLE.

*Shewing the Amount of Savings that would be effected by accumulating £6 a-year with Interest.*

AT END OF YEARS.	AMOUNT OF SAVINGS AT									AT END OF YEARS.
	3 per cent.			4 per cent.			5 per cent.			
	£.	s.	d.	£.	s.	d.	£.	s.	d.	
1	6	0	0	6	0	0	6	0	0	1
2	12	3	8	12	4	10	12	6	0	2
3	18	10	11	18	14	8	18	18	4	3
4	25	2	0	25	9	8	25	17	3	4
5	31	17	1	32	10	0	33	3	1	5
6	38	16	3	39	16	0	40	16	3	6
7	45	19	6	47	7	11	48	17	1	7
8	53	7	1	55	5	9	57	5	11	8
9	60	19	3	63	10	0	66	3	3	9
10	68	15	9	72	0	10	75	9	5	10
11	76	17	0	80	18	5	85	4	10	11
12	85	3	1	90	3	2	95	10	1	12
13	93	14	2	99	15	3	106	5	7	13
14	102	10	5	109	15	1	117	11	5	14
15	111	11	10	120	2	11	129	9	6	15
16	120	18	10	130	19	0	141	18	11	16
17	130	11	5	142	3	9	155	0	11	17
18	140	9	9	153	17	6	168	15	11	18
19	150	14	1	166	0	7	183	4	9	19
20	161	4	6	178	13	5	198	8	0	20
21	172	1	3	191	16	5	214	6	5	21
22	183	4	5	205	9	10	231	0	8	22
23	194	14	5	219	14	2	248	11	9	23
24	206	11	3	234	10	0	267	0	3	24
25	218	15	2	249	17	7	286	7	4	25
26	231	6	5	265	17	5	306	13	8	26
27	244	5	2	282	10	2	328	0	5	27
28	257	11	9	299	16	2	350	8	5	28
29	271	6	4	317	16	0	373	18	10	29
30	285	9	1	336	10	3	398	12	8	30
31	300	0	4	355	19	5	424	11	4	31
32	315	0	5	376	4	3	451	15	11	32
33	330	9	5	397	5	2	480	7	9	33
34	346	7	8	419	3	0	510	8	1	34
35	362	15	6	441	18	4	541	18	5	35

*Example.*—A person setting aside £6 a-year, or 10s. a month, for a child aged 3 years, would, with interest at 4 per cent., have accumulated £153. 17s. 6d. by the time the child attained the age of 21.

In case of previous death, or inability to continue the payments, the amount paid could be returned with interest at 3 per cent., less — per cent. towards expenses of society.

TABLE XV.

*Specimen of New Deposit Tables, for Savings Banks and Industrial Associations, shewing—*

- 1.—The Amount to which a Deposit of £100 will accumulate at the end of any number of years up to 10.
- 2.—The Amount to which a Deposit of £10 per annum will accumulate at the end of any number of years up to 10.

On the condition that, after the first Year, One Half (or One Fourth) of the Sum deposited may be withdrawn, *without interest*, on giving one week's notice; the balance of the Deposit and the accumulated compound Interest remaining unwithdrawable till the end of the period, unless six months' notice of withdrawal be given.

Rates of Interest £3. 10s. and £2. 10s. per cent., as explained at foot.

DEPOSIT OF £100.							DEPOSIT OF £10 PER ANNUM.								
No. of Years.		One Half withdrawable.			One Fourth withdrawable.			One Fourth withdrawable.			One Half withdrawable.			No. of Years.	
		£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.		
1		103	0	0	103	5	0	10	6	6	10	6	0	1	
2		106	2	1	106	12	4	20	19	9	20	18	2	2	
3		109	6	5	110	1	11	31	19	11	31	16	10	3	
4		112	12	11	113	13	11	43	7	4	43	2	1	4	
5		116	1	9	117	8	7	55	2	2	54	14	3	5	
6		119	13	0	121	5	9	67	4	9	66	13	7	6	
7		123	6	9	125	5	8	79	15	4	79	0	3	7	
8		127	3	1	129	8	4	92	14	2	91	14	7	8	
9		131	2	1	133	14	0	106	1	7	104	16	10	9	
10		135	3	11	138	2	7	119	17	10	118	7	2	10	

N.B.—This Table is computed according to formulæ Nos. 1 and 13, Arts. 67, 75, in the Appendix to "*Treatise on Associations for Provident Investment*," on the supposition that the lower rate of  $2\frac{1}{2}$  per cent. is allowed on the withdrawable portion of the Deposit, and  $3\frac{1}{2}$  per cent. on the unwithdrawable portion, as also upon the entire amount of the interest as it accumulates from year to year.

*Example:* 1.—A person having deposited £100 will be entitled, at any time after the first year, to draw out £50, or £25, as the case may be, at a week's notice. Say he has retained the power to withdraw one-half, and that he exercises this power at the end of the 5th year. The amount at his credit at that moment is £116. 1s. 9d., from which deducting the £50 withdrawn, there will remain £66. 1s. 9d. to accumulate for the remaining 5 years (or until withdrawn under a six months' notice) at  $3\frac{1}{2}$  per cent. compound interest. If, on the other hand, the whole amount of the Deposit be left undisturbed by the Depositor during the term, then the accumulated amount at the end of 10 years will be £135. 3s. 11d.

2.—A person having deposited £10 per annum, say for 5 years, will be entitled at the end of that year to withdraw one-half or one-fourth of the aggregate of his deposits to that time (*viz.*, £25 or £12. 10s.) as the case may be, at a week's notice; the remainder, together with the interest, being left to accumulate at  $3\frac{1}{2}$  per cent. till the end of the term, or until withdrawn under a six months' notice.

TABLE XVI.

*Extract from the Tables of Logarithms.*

Number.	Hyperbolic or Neperian Logarithms.	Ordinary Logarithms.	Number.	Hyperbolic or Neperian Logarithms.	Ordinary Logarithms.
1.01	.0099503	.0043214	47.00	3.8501476	1.6720979
1.02	.0198026	.0086002	48.00	3.8712010	.6812412
1.03	.0295588	.0128872	49.00	3.8918203	.6901961
1.04	.0392207	.0170333	50.00	3.9120230	.6989700
1.05	.0487902	.0211893	51.00	3.9318256	.7075702
1.06	.0582689	.0253059	52.00	3.9512437	.7160033
1.07	.0676586	.0293838	53.00	3.9702919	.7242759
1.08	.0769610	.0334238	54.00	3.9889840	.7323938
1.09	.0861777	.0374265	55.00	4.0073332	.7403627
1.10	.0953102	.0413927	56.00	4.0253517	.7481880
2.00	.6931472	.3010300	57.00	4.0430513	.7558749
3.00	1.0986123	.4771213	58.00	4.0604430	.7634280
4.00	1.3862943	.6020600	59.00	4.0775374	.7708520
5.00	1.6094379	.6989700	60.00	4.0943446	.7781513
6.00	1.7917594	.7781513	61.00	4.1108739	.7853298
7.00	1.9459101	.8450980	62.00	4.1271344	.7923917
8.00	2.0794415	.9030900	63.00	4.1431347	.7993405
9.00	2.1972245	.9542425	64.00	4.1588831	.8061800
10.00	2.3025851	1.0000000	65.00	4.1743873	.8129134
11.00	2.3978953	.0413927	66.00	4.1896547	.8195439
12.00	2.4849066	.0791812	67.00	4.2046926	.8260748
13.00	2.5649494	.1139434	68.00	4.2195077	.8325089
14.00	2.6390573	.1461280	69.00	4.2341065	.8388491
15.00	2.7080502	.1760913	70.00	4.2484952	.8450980
16.00	2.7725887	.2041200	71.00	4.2626799	.8512583
17.00	2.8332133	.2304489	72.00	4.2766661	.8573325
18.00	2.8903718	.2552725	73.00	4.2904594	.8633229
19.00	2.9444390	.2787536	74.00	4.3040651	.8692317
20.00	2.9957323	.3010300	75.00	4.3174881	.8750613
21.00	3.0445224	.3222193	76.00	4.3307333	.8808136
22.00	3.0910425	.3424227	77.00	4.3438054	.8864907
23.00	3.1354942	.3617278	78.00	4.3567088	.8920946
24.00	3.1780538	.3802112	79.00	4.3694479	.8976271
25.00	3.2188758	.3979400	80.00	4.3820266	.9030900
26.00	3.2580965	.4149733	81.00	4.3944492	.9084850
27.00	3.2958369	.4313638	82.00	4.4067192	.9138139
28.00	3.3322045	.4471580	83.00	4.4188406	.9190781
29.00	3.3672958	.4623980	84.00	4.4308168	.9242793
30.00	3.4011974	.4771213	85.00	4.4426513	.9294189
31.00	3.4339872	.4913617	86.00	4.4543473	.9344985
32.00	3.4657359	.5051500	87.00	4.4659081	.9395193
33.00	3.4965076	.5185139	88.00	4.4773368	.9444827
34.00	3.5263605	.5314789	89.00	4.4886364	.9493900
35.00	3.5553481	.5440680	90.00	4.4998097	.9542425
36.00	3.5835189	.5563025	91.00	4.5108595	.9590414
37.00	3.6109179	.5682017	92.00	4.5217886	.9637878
38.00	3.6375862	.5797836	93.00	4.5325995	.9684829
39.00	3.6635616	.5910646	94.00	4.5432948	.9731279
40.00	3.6888795	.6020600	95.00	4.5538769	.9777236
41.00	3.7135721	.6127839	96.00	4.5643482	.9822712
42.00	3.7376696	.6232493	97.00	4.5747110	.9867717
43.00	3.7612001	.6334685	98.00	4.5849675	.9912261
44.00	3.7841896	.6434527	99.00	4.5951199	.9956352
45.00	3.8066625	.6532125	100.00	4.6051702	2.0000000
46.00	3.8286414	.6627578			

*Rem.*—Hyperbolic Logarithms can be deduced from the ordinary tables of Logarithms to the base 10, by multiplying the latter by  $\text{Loge } 10$  or 2.302851.

See "Callet's Logarithms."—*Fermin Didot, Paris.*



TABLE XVII.

*English Life Table No. 3. Interest 3 per cent.*

(Calculated by the Registrar-General from the Returns for 17 Years.)

Age.	Expectation of Life.		Present Value of £100 a-year, Annuity due.		Present Value of £100 payable at Death.	
	Males.	Females.	Males.	Females.	Males.	Females.
	Years.	Years.				
0	39.9	41.9	£1915	£1985	£44.2	£42.2
1	46.7	47.3	2235	2244	34.9	34.6
2	48.8	49.4	2350	2354	31.5	31.4
3	49.6	50.2	2403	2407	30.0	29.9
4	49.8	50.4	2430	2435	29.2	29.1
5	49.7	50.3	2444	2448	28.8	28.7
6	49.4	50.0	2447	2451	28.7	28.6
7	48.9	49.5	2444	2447	28.8	28.7
8	48.4	49.0	2437	2440	29.0	28.9
9	47.7	48.4	2425	2429	29.4	29.3
10	47.1	47.7	2411	2415	29.8	29.7
11	46.3	47.0	2393	2398	30.3	30.2
12	45.5	46.2	2374	2380	30.8	30.7
13	44.8	45.4	2354	2360	31.4	31.3
14	44.0	44.7	2332	2340	32.1	31.8
15	43.2	43.9	2311	2319	32.7	32.4
16	42.4	43.1	2289	2299	33.3	33.0
17	41.6	42.4	2267	2278	34.0	33.6
18	40.9	41.7	2246	2258	34.6	34.2
19	40.2	41.0	2226	2239	35.2	34.8
20	39.5	40.3	2206	2221	35.7	35.3
21	38.8	39.6	2187	2203	36.3	35.8
22	38.1	39.0	2168	2186	36.8	36.3
23	37.5	38.3	2149	2168	37.4	36.9
24	36.8	37.7	2129	2150	38.0	37.4
25	36.1	37.0	2109	2131	38.6	37.9
26	35.4	36.4	2089	2112	39.2	38.5
27	34.8	35.8	2067	2093	39.8	39.0
28	34.1	35.1	2046	2074	40.4	39.6
29	33.4	34.5	2024	2054	41.1	40.2
30	32.8	33.8	2001	2034	41.7	40.8
31	32.1	33.2	1978	2013	42.4	41.4
32	31.4	32.5	1955	1992	43.1	42.0
33	30.7	31.9	1931	1970	43.8	42.6
34	30.1	31.2	1906	1948	44.5	43.3
35	29.4	30.6	1881	1925	45.2	43.9
36	28.7	29.9	1855	1902	46.0	44.6
37	28.1	29.3	1829	1878	46.7	45.3
38	27.4	28.6	1802	1854	47.5	46.0
39	26.7	28.0	1775	1829	48.3	46.7
40	26.1	27.3	1747	1804	49.1	47.5
41	25.4	26.7	1719	1777	49.9	48.2
42	24.7	26.0	1690	1750	50.8	49.0
43	24.1	25.4	1661	1723	51.6	49.8
44	23.4	24.7	1631	1695	52.5	50.6
45	22.8	24.1	1601	1666	53.4	51.5
46	22.1	23.4	1570	1636	54.3	52.3
47	21.5	22.7	1539	1606	55.2	53.2
48	20.8	22.1	1507	1574	56.1	54.1
49	20.2	21.4	1475	1542	57.0	55.1
50	19.5	20.8	1442	1509	58.0	56.0

TABLE XVII.—(continued.)

*English Life Table No. 3. Interest 3 per cent.*

(Calculated by the Registrar-General from the Returns for 17 Years.)

Age.	Expectation of Life.		Present Value of £100 a-year, Annuity due.		Present Value of £100 payable at Death.	
	Males.	Females.	Males.	Females.	Males.	Females.
-	Years.	Years.				
51	18.9	20.1	£1409	£1476	£59.0	£57.0
52	18.3	19.4	1376	1441	59.9	58.0
53	17.7	18.8	1343	1405	60.9	59.1
54	17.1	18.1	1310	1369	61.9	60.1
55	16.5	17.4	1276	1333	62.8	61.2
56	15.9	16.8	1241	1297	63.8	62.2
57	15.3	16.2	1207	1261	64.8	63.3
58	14.7	15.6	1172	1225	65.9	64.3
59	14.1	14.9	1137	1189	66.9	65.4
60	13.5	14.3	1102	1153	67.9	66.4
61	13.0	13.8	1067	1117	68.9	67.5
62	12.4	13.2	1031	1080	70.0	68.5
63	11.9	12.6	996	1044	71.0	69.6
64	11.3	12.1	961	1008	72.0	70.6
65	10.8	11.5	927	973	73.0	71.7
66	10.3	11.0	892	938	74.0	72.7
67	9.8	10.5	859	903	75.0	73.7
68	9.3	9.8	825	868	76.0	74.7
69	8.9	9.5	793	835	76.9	75.7
70	8.5	9.0	761	802	77.8	76.7
71	8.0	8.6	730	769	78.7	77.6
72	7.6	8.1	700	738	79.6	78.5
73	7.2	7.7	670	707	80.5	79.4
74	6.9	7.3	642	677	81.3	80.3
75	6.5	6.9	614	648	82.1	81.1
76	6.2	6.6	588	620	82.9	81.9
77	5.8	6.2	562	593	83.6	82.7
78	5.5	5.9	538	568	84.3	83.5
79	5.2	5.6	514	543	85.0	84.2
80	4.9	5.3	492	519	85.7	84.9
81	4.7	5.0	470	496	86.3	85.6
82	4.4	4.7	450	474	86.9	86.2
83	4.2	4.5	430	453	87.5	86.8
84	4.0	4.2	412	433	88.0	87.4
85	3.7	4.0	394	414	88.5	87.9
86	3.5	3.8	377	396	89.0	88.5
87	3.3	3.6	361	379	89.5	89.0
88	3.2	3.4	346	363	89.9	89.4
89	3.0	3.2	331	347	90.3	89.9
90	2.8	3.0	318	333	90.7	90.3
91	2.7	2.9	305	319	91.1	90.7
92	2.6	2.7	293	306	91.5	91.1
93	2.4	2.6	281	294	91.8	91.4
94	2.3	2.4	270	282	92.1	91.8
95	2.2	2.3	260	271	92.4	92.1
96	2.1	2.2	250	260	92.6	92.4
97	2.0	2.1	241	251	92.9	92.7
98	1.9	2.0	233	241	93.0	93.0
99	1.8	1.9	224	232	93.2	93.0
100	1.7	1.8	217	224	93.1	93.3

## \*APPENDIX

ON

I.—BUILDING COMPANIES AND SUBURBAN VILLAGE ASSOCIATIONS; THEIR NATURE AND OBJECT.

II.—REMARKS ON THE RURAL DISTRICTS.

III.—THE NECESSITY FOR HOME COLONIZATION OR SYSTEMATIC EMIGRATION.

### SECTION I.

ART. 1.—At the commencement of most Benefit Building or Freehold Land Societies, a notable difficulty exists in the absence of sufficient capital, through the slow and gradual mode by which the funds are collected, and of proper legal authority, whereby the erection or purchase of houses and land may be effected, upon a wholesale principle, and a profit may at once be secured to individuals on their part of the same. The advantages of aggregate purchases, or of building operations upon a large scale, are, however, so important, that the promoters of many institutions, with such an object, have found it desirable to forego the privileges of the Act of Parliament relating to Benefit Building Societies, and have sought a legal constitution under the provisions of the Acts for Joint Stock Companies. In the place, therefore, of the Investors' subscriptions of a provident association, they have adopted the plan of the Capital-Stock of a company, and have combined therewith, in respect to the reproductive use of the money, the facilities of Advance-repayments afforded by Building Societies.

2.—Building Companies and Suburban Village Associations have thus been formed with a capital, that serves to purchase land wholesale, and to erect a large number of buildings upon it, which, when finished, are transferred to purchasing-tenants, under security of a mortgage, for a specified term of years; the payments of the tenants, during that time, being monthly or quarterly, and calculated so as both to afford a liberal rate of interest on the capital invested, and to purchase the house from the company. The proprietary capital is fixed at a nominal sum, from £100,000 to £250,000, divided into shares of £5 or £10 each, to be paid up in two or three instalments, within a short time; upon these shares, periodical dividends are declared at 4 or 5 per cent., or at such other rate

\* Reprinted from the (1851) Edition of this Treatise.

as may be realized out of the profits upon the advance-repayments, which are received from the purchasers of the houses built by the company. Instead of the money being advanced in cash to the tenant to enable him to erect or purchase for himself, the whole transaction is conducted under the superintendence of the Directors of the company; and the purchase-repayments are regulated by a table according to the wholesale cost, which is generally so moderate as to allow of a fair margin of profit in favour of the Stock-holders, whose capital has thus been made use of. The administrative provisions of the Company's Deed of Settlement or Articles of Association differ but little from the clauses in Benefit Building Society Rules, but the legal position of the proprietor is essentially different. The operations of the association are usually directed to the extension of rising towns, by building in the suburbs or other improving localities, or to the establishment of habitations upon new and desirable sites, to which the tastes of the affluent or the necessities of the industrious have directed public attention. For this latter case, Building Companies, under the name of Suburban Village Associations, have been mainly designed, and they have met with the sympathy and support of all who are interested in the welfare of the poorer inhabitants of our crowded cities.

3.—In this country there is an element which, independent of the attractiveness of a good investment, may be relied upon, in carrying out plans designed for the improvement of the condition of the industrious classes. This element is a feeling of benevolence, mingled with a sense of the duty, which devolves upon the possessors of larger property, to protect and succour those who are placed beneath them, perhaps, in position and fortune, but through whose agency a great portion of their own wealth is created. This duty is felt to be the more stringent, because it is almost impossible for the poor to do anything themselves towards bettering their condition in respect to their dwellings.

4.—Were this feeling wanting, it is considered that parishes and unions might do much towards improving the condition of mechanics and rural labourers, with their families, by taking the matter into their own hands, and by erecting comfortable dwellings, as Suburban Villages, to be let at a rent that would merely repay the cost; not, perhaps, indiscriminately to any one, but to those who, by their general good character, should seem most entitled to a preference. There is arising an opinion, that with such a system carried to some extent, there would be less occasion for Workhouses upon their present scale, and the morals of the lower orders would be greatly improved. The difficulty in the way of improving the dwellings of the labouring classes, whether in town or in the country, lies in a small compass, as it is purely a financial one; and there is nothing to be done, but what every one must perceive to be necessary, and what any ordinary builder can execute.

5.—Of the necessity of measures for the accomplishment, in a systematic manner, of the object aimed at by associations of this nature, the public mind has been sufficiently convinced by the disclosures lately made concerning the



condition of the metropolis. The recent metropolitan improvements, considered in conjunction with the data furnished by the weekly bills of mortality, demonstrate, to conviction, the very great extent, to which the debased condition of the poorer classes of the population arises from the insufficiency and wretchedness of their habitations. Much sympathy has been excited and has been called into active exertion by these disclosures, and not without good result. But, of all the pernicious influences, to which the poor of the metropolis and other large towns are exposed, there is not one which has so direct an effect in impeding the efforts of charity in their behalf, or in neutralizing the result which may, by constant exertion, have been effected by that charity, as their dense and promiscuous aggregation in large numbers in filthy and insufficient dwellings. Nor can we reasonably hope that the strenuous endeavours of those benevolent persons, who seek to promote the education of the rising generations of the industrious classes, can be adequately recompensed, while the objects of their solicitude are, by the circumstances of their condition, compelled to live among scenes of disorder, along with crowds of adults congregated together in a manner which precludes any attention to decency or comfort, and coming into continual contact and intercourse with the most lawless and depraved individuals. No wonder that, under these circumstances, vice is rendered so familiar to the youthful mind, that it becomes almost incapable of recognizing its evil. The associations in question desire to lessen the mischief, and to benefit the community at large, by building villages at a moderate distance from the metropolis.

6.—Although the class, for whose immediate welfare they are mainly intended, can hardly be expected, at once, to accept the advantages held out to them; yet the gradual removal of those whose circumstances permit, *viz.* clerks, artizans, and others of limited income, for whom the associations desire to erect dwellings in the first instance, will afford to others the opportunity of obtaining superior habitations on more favourable terms, and less exposed to the malignant influences peculiar to their former localities. It is hoped that the force of example, combined with educational and other remedial measures, will, ultimately, induce the poorer classes to avail themselves of the benefits held out by such Suburban Societies. In accordance with this plan, the formation of villages is suggested at distances of from four to eight miles from London or other important towns provided with Railways, and in the immediate vicinity of Stations. “These villages to consist of houses built in pairs, averaging six cottages to an acre, and combining all the advantages which the application of practical science can confer, as to construction, ventilation, drainage, and architectural arrangement, and with a good garden to each.”

7.—In the last paragraph we have, to illustrate the principle, referred to a prospectus, in which it is stated, that to erect two such villages, with suitable public buildings, an estimated capital of £250,000 would be required; and, in order to bring the shares within the means of those for whose benefit the association is principally formed, the amount is divided into 50,000 shares of £5

each; upon which, after the deposit of 6*d.* and a call of 4*s.* 6*d.* per share have been paid, the remaining £4. 15*s.* may be made up by instalments, suited to the progress of the works, at the rate of not less than £1 per share per annum.

8.—Suburban Village Associations do not hold forth the prospect of a large return, in the shape of profit, to the shareholders, but rather invite support to undertakings having for their object the amelioration of the sanitary condition of persons of restricted income; at the same time, it is felt that, in order to ensure a proper extension of the plan, a reasonable rate of interest should be secured to the members for their investments. It is proposed, therefore, that the rents should be sufficient, after providing for all disbursements, contingencies, &c., to return a dividend of about five per cent. per annum, on the capital of the association.

The provisions of these societies are chiefly adapted to the requirements of the industrious inhabitants of Towns, who derive from their labour small incomes, upon which they may fairly reckon, and are thereby enabled to join in transactions, which require the continuation of periodical subscriptions for a certain number of years.

[*Facilities for borrowing money for the purposes of such a Society, are given by the Statutes of 1866 and 1867.*]

## SECTION 2.

### *Remarks on the Rural Districts.*

ART. 9.—With country dwellers, however, the case is somewhat different; the distance at which they are separated from each other, prevents them from joining, in great numbers, in mutual association; and they have neither the experience nor the busy habits which belong to the inhabitants of towns. Besides this, the establishment of land investment societies in agricultural districts is much impeded by other causes. The growing tendency to accumulate wealth in the hands of a few persons is traceable in the division of landed property, all over the country. The many thousand small freeholds which might be found a century and a half ago, scattered over the length and breadth of our island, have been gradually collected into large estates, the property of a few wealthy individuals.

10.—A corresponding change has taken place in the character of the agricultural classes. The old Yeoman, with his few paternal acres of land, his high spirit and independence, has given place to a class of tenants sometimes farming on a greater scale, but holding, by leasehold tenure, the lands which were formerly divided into separate freeholds. The larger number of field labourers employed by them, and, in some cases, by the owners of the soil, have, in general, no real

property, but dwell in small cottages, pay their rents in frequently-recurring instalments, or are liable to be ejected upon very short notice.

11.—Many persons, who are not practically familiar with the rural districts, imagine that the once existing mutual footing between labourer and employer yet subsists. Such now, is not the case, at least, in most parts of the kingdom. In Scotland, perhaps, the agricultural labourers are a less distinct and separated body than in England, as regards their employers. In this country, the great bulk of the farm labourers form a distinct class, inhabiting the outskirts of the small towns and villages, which they have almost entirely to themselves; and as they have neither capital nor any resource beyond their daily labour (for which also there is no certainty of continued employment), they earn a most precarious existence. In some cases, the sites of the villages belong to a few proprietors, sometimes to only one, but it by no means follows that they are employed, either on the farm of which a village site may form a part, or even on the property of which the farm may be but a portion. Their labour is at the command of any one who is disposed to hire it, so that, what with uncertainty of employment, and the fluctuation in the amount of their wages, they pass their lives in constant oscillations between their cottages and the workhouse, with no alternative beyond, but starvation or the grave. Such is the general system which prevails through England. With the causes which have concurred to produce this system, we have, at present, nothing to do. It appears, however, that they are still in action, and country residents may, even now, observe that the tendency of large estate-holders is to extend their boundaries, and absorb the small freeholds which may yet be left around them.

12.—The effect of this concentration of property may be regarded as, generally, unfavourable to the lower classes. It has the effect described by \* Archbishop Whately :—"Where a large proportion of the wealth of a community consists of the enormous and overgrown fortunes of a few, that community has by no means such promising prospects in respect to the intellectual and moral advancement of the rest of the people, or even of the possessors of those fortunes, with one which enjoys a greater diffusion of wealth."

The landlord, speculating upon the fluctuations in the value of landed property, is unwilling to grant long leases upon terms which, though they may appear equitable at the time, may, afterwards, give, what he considers, an undue advantage to the tenant, as the land improves or the value of its produce rises in the market. The farmer, on the other hand, is, naturally, unwilling to toil for the good of others, and he refrains from making those improvements in the land, of which, though it may ultimately increase its value, he himself may never reap the fruits; besides this, although a large quantity of land is still waste and uncultivated, yet the trade of a farmer, like almost every other calling in this country, is considerably over-stocked; the number of farms required being greater than the number of farms to be had, and competition, with all its unfortunate

\* *Lectures on Political Economy*, No. 8.



results, ensues ; the farmer agrees to pay an unreasonable rent, rather than be cast idle upon the world ; to maintain his family and pay that rent he has recourse to a system of strict economy ; and, in this system, the first and most obvious step is to diminish the wages of his farm labourers. Upon the latter class, the casualties incident on agricultural pursuits, fall with greatest severity ; every unfavourable change in our uncertain climate ; every fall in the value of the produce of the soil, arising either from a glut of the market or from legislative measures, compels the farmer to shorten the wages, or, more generally speaking, to increase the misery of his labourers.

13.—The example thus set by the lease-holding farmer, which is only justifiable on the ground of absolute necessity, is, too often, eagerly followed by the landed proprietors. The labouring classes are thus reduced to a condition of great poverty, many of them being dependent on private benevolence for their support during a great part of the year ; on the other hand, it too frequently happens that farmers in the present day take more land than they have capital to manage. Hence, when a bad season arrives, they are driven to their wit's end to know what to do. Their labourers, at most times, are incompletely employed, and, when dismissed, are driven on the parish. This, in the shape of an increased Poor-rate, recoils on the farmers themselves.

[See further on this subject, the Appendix on the "Improvement of Industrial Dwellings."]

### SECTION 3.

#### *The necessity for Home Colonization or Systematic Emigration.*

ART. 14.—Of the necessity which now exists for an immediate, extensive, and practical scheme for the amelioration of the condition of the labouring portion of the population, agricultural and mechanic, there is no need of much demonstration. At no former period in the history of this kingdom has such extreme misery existed, as at present ; for, although it is true that the general condition of the people has vastly improved during the last 200 years, yet it cannot be doubted that there is, now, a class absolutely much more numerous than at any former period, which suffers to the extreme limit of physical endurance ; the class composed of those who, in the excessive supply of labour, which, owing to the redundancy of population, exists in the present day, are unfortunate enough to be placed at the bottom of the scale. Besides this, the over-stocked state of the liberal professions ; the severe competition among tradesmen ; the precarious employment, scanty food, and low wages of the agricultural labourers in many parts of the kingdom ; the deplorable physical condition and social abasement of immense numbers of the artizans who inhabit our larger towns ; together with the fact that there exist multitudes, who habitually work at sedentary and unwholesome occupa-



tions for 13 or 14 hours a day, but whose toil is so ill requited, that they are never free from the care and hopeless anxiety which cannot but attend on a state of poverty, only one degree removed from the completest destitution; and who immediately sink, irretrievably, to the lowest condition, when sickness, which is constantly hovering over their debilitated frames, at length arrests the efforts of their feeble hands; all, categorically elicited to the minutest detail, by the enquiries which have been set on foot during the last 20 years, and fearfully confirmed by the facts which are continually brought to our notice, with horrible vividness, in the mere perusal of the daily papers, must, collectively, be considered as the consequences of one leading cause: *viz.* the continual increase of the population, without a simultaneous increase of the means of employment; and, taken together, afford an argument (than which no stronger could be adduced in proof of any assertion), that, in reality, there does, now, exist an urgent necessity for taking immediate and systematic measures towards greater improvement of their condition.

15.—This can only be effected by laying open a wide field of employment, in order to lessen the competition of capital with capital, and labour with labour, which is the permanent cause of distress. The ancient saying still holds, that when a parent is unable to make suitable provision for his offspring, it is time that the needy children should quit the parental roof and seek elsewhere for their daily bread. It has been suggested, that the furtherance of this object might be assisted by systematically endeavouring to reclaim the *available* tracts of uncultivated land in the United Kingdom. \*These, in Ireland, occupy an area of nearly four million acres, of which one million and a half are reclaimable for the spade and the plough (with promise of great fertility), and about two millions and a half more are suitable for pasture. But a more adequate remedy would be found in the successful colonization of the distant territories of the British Empire. These include vast tracts of land of the most exuberant fertility, only wanting capital and labour to cover them with abundant harvests, but, wanting these, are now covered with useless vegetation, and give shelter and sustenance to beasts. We may here be allowed to quote a striking remark of the distinguished economist, Mr. Stuart Mill—"The art of Colonization is but to carry "the superfluity of the one part of this Empire to repair the deficiency of the "other; to cultivate the desert by applying to it the means that lie idle at home, "in one word, to convey the plough to the field, the workman to his work, the "hungry to his food." It may be affirmed, with this author, that Colonization, in the present state of the world, is the very best affair of business in which the capital of an old and wealthy country could possibly be engaged.

16.—The following pages contain a description of the plan recently proposed (1849) for accomplishing the reclamation of the half-cultivated lands in Ireland, by purchasing those estates, and working them with English capital; and, while raising up a body of independent yeomanry in that country, to diminish the

\* [Only two-thirds of the uncultivated mountain and boglands are considered *available*.]

competition for farms, and give increased employment to agricultural labourers. The same plan is, also, equally applicable to the systematic Colonization of our foreign possessions, and thus affords a practical method of improving the condition of the industrious classes; while, at the same time, it offers a lucrative mode of investment to those who may be willing to advance the requisite capital. The pressure we have described can be continuously alleviated, by a well organised and vigorous system of emigration and of colonization combined with it, the only certain system of relief; unless, as has been said in reference specially to Ireland,\* we wait for the operation of famine and pestilence, to remove that, now, super-abundant population, which presents an insuperable obstacle to ultimate improvement. Even in a purely economical view of the matter, let any one compute carefully the annual cost of maintaining a given number of persons, to say nothing of their probable increase, for whom no profitable employment can be found; then let him estimate the outlay necessary, once for all, to settle, as colonists, the same number of persons, in such a way as to enable them to support themselves in plenty; and let the annual *permanent* burden of the former procedure be compared with the *interest* of the sum required for the other: conviction must follow.

\* Archbishop Whately, *App. D. to 3rd Ed. of Lectures on Political Economy.*

## APPENDIX\*

ON

### FREEHOLD ASSURANCE AND INVESTMENT APPLIED TO SYSTEMATIC COLONIZATION.

*"It is no longer a question whether emigration should be encouraged. Emigration is, now, indisputably shown to be the great outlet for these Islands. As surely as Niagara relieves the inland seas of America, emigration is the door of safety for our human redundancy. But woe to the state that watches unconcerned the spontaneous remedies and escapes of a miserable crowd. As it values its own safety, it must take the matter in hand, direct the method, and guide the issues of the mighty operation. Future ages may rue the present neglect."—TIMES.*

ART. 17.—There are three leading principles to be considered, in reference to the important question of systematic emigration and colonization. The first is the basis of the plan of Freehold Assurance.† The second is involved in the system of fostering and raising the status of emigrants, by transferring colonial land to a superior class of persons, not gratis, as heretofore, but on payment of a moderate purchase-money, and in applying the proceeds to providing the colonies with healthy labourers, dispatched, to a certain degree, at the national expense.‡ The third consists in the establishment of Benefit Emigration and Colonization Societies, which, by the instrumentality of the co-operative association of the industrious classes, can be made to supply that which is most essential, and yet wanting in the first two principles: *viz.*, to create the necessary funds to enable emigrants, entirely through their own efforts, to become purchasers of land and other colonial requisites.

#### *Section I.—Of Freehold Assurance.*

18.—The nature of a Freehold Assurance Company may be easily and concisely explained. Suitable tracts of country being purchased from the existing proprietors, would, unless already in the desired state, be drained, fenced, and otherwise adapted for immediately profitable cultivation, at the expense of the company, and, so improved, be divided into small allotments, furnished with the

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\* Reprinted from the 1851 Edition of this Treatise.

† Freehold Assurance; or, the Extension of the principle of Life Assurance to Tenancy and Colonization.—By William Bridges. 1842.

‡ [The Emigration commission, appointed in 1840, had power to devote the proceeds of Land-Sales to emigration, in the ratio of free passages for five adults in respect to every £100 worth of land purchased. The Poor-law Board have also a restricted power to sanction allowances towards free passages out of parochial money.—(See 4 & 5, W. IV. c. 76; 11 & 12, V. c. 110; and also Land-Sales Act, 5 & 6 V., c. 36.)]

requisite buildings, &c. These allotments would then be disposed of, by conveying the fee-simple thereof to chosen persons (who could, at once, enter upon and profitably cultivate the same), subject to a terminable rent charge; a part of which would consist of the interest of the capital expended, and would be, in point of fact, a rent like that which, in the usual relation of landlord and tenant, is paid for the hire of land; while the remainder would consist of the premiums, which would be paid by the allottees, on the ordinary principles of Life Assurance, in order to secure, for each, the payment at his death *of a sum equal to the estimated value of his particular allotment*. On the death of one of these original Allottees, the sum assured would not be paid to his devisees or representatives, but, in lieu thereof, they would become the possessors of an unincumbered Freehold Estate. The payment of the annual rent-charge to the company during the life of the first occupier would be secured by a mortgage on the property.

19.—This plan is considered to be peculiarly fitted, not only for the improvement of our distant possessions, but also for Home Colonization, more particularly in the amelioration of the present condition of \*Ireland, as in that country extensive tracts of land might be purchased at so low a rate (as has been determined by actual investigation), that, if they were adapted to the proposed purpose with proper skill and due economy, the rent charge, estimated as above, need not greatly exceed the sum which, under the present system of Landlord and Tenant, is frequently paid as rent alone, for even temporary occupation; while it would, at the same time, be sufficient to realize a large interest for the capital originally expended. The plan, no doubt, offers a means of bringing about a complete change in the social condition of that portion of the kingdom, by creating independent yeomen, possessed of the strongest inducement to industry: *viz.*, that the fruits of their exertion would be all their own; while a very high state of cultivation might be expected in the course of time, from the concentration of the care and diligence of each farmer on a limited acreage.

20.—The system of pure Life Assurance for the whole term of life might, in some cases, be conveniently modified. The adoption of the principle of payments for †fixed term of years, independent of life contingency, might sometimes be preferable; as, for instance, in the case of a person whose life would not be accepted at the ordinary rates of life assurance, but who, from skill and knowledge of farming, might be so desirable as one of the allottees, that it would not be advisable to exclude him from participating in the benefits offered by the association. The tenants should be allowed the option of three plans: *viz.*,—

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\* ["Were the security of property and the empire of the law as well established in Ireland as in Britain, land would certainly sell higher in the former than in the latter. Most Irish Estates are, comparatively, in a state of nature, and afford capacities for the profitable outlay of capital that are all but unknown in England."]—Mc Culloch's *British Empire*.]

† [This is the plan recently (1868) advocated by Mr. Henry Dix Hutton, of Dublin, in his admirable paper on the gradual creation of a Farmer-proprietary in Ireland, by a system of Rent-banks or rent-debentures.]



1st. To pay an Annuity, including repayment of principal, with interest in advance, for the whole life; or—

2nd. To pay the same for any term of years, to be selected at will by them, independent of Life Contingency. The property, passing to their heirs in case of death, with the remainder of the encumbrance, for the unelapsed number of years; or—

3rd. To arrange for the payments to be made upon a principle combining Life Contingency and Terms certain, so that, if the life assured live over the term of years, which he will be at liberty to select as most suited to his means and wishes, he may have the property free of all encumbrance; and, if he die beforehand, it may pass in a similar state to his heirs.

These three main distinctive plans admit of a great variety of adaptation. One modification, however, will be specially advisable, and will meet the objection raised (not without force) to plans of a fixed rent-repayment, that it leaves no margin that can be applied to the important object of improving the property:—It is to make the payments as small as practicable for the first two or three years, so as to allow the farmer to get settled, and then that the rates should be increased. It might be left at the option of each farmer to select his term and mode of payment, provided he offered satisfactory security.

*Example 1:*—A life aged 30 might be assured for £2. 4s. 8d. per cent. on the half premium system, for the first 2 years; that is, during that time half the premiums might stand over on credit, to be paid off when convenient, and, if the first year's interest on the loan be permitted to stand over until the end of the same period, the farmer would have ample time to get his land in order.

*Example 2:*—Suppose the farmer, on account of his age, do not care to avail himself of Life Assurance, he can make his repayments by a table for a limited term of years, leaving his heirs to finish the same, should he die beforehand.

Thus, if the advance be made for 19 years, the rate of annual *repayment* per £100, principal and interest, at 4 per cent. would be £7. 12s. 4d. at the end of each year. [See Table XIII.]

If the first repayment is not made until three years are expired, his repayments will be £8. 4s. 9d., for a then term of 19 years, as the debt to be liquidated would be then £108. 3s. 3d., instead of £100, from the arrears of 2 years' interest. Similarly for other periods and rates of interest.

*Example 3:*—He may combine the principles of Life Assurance and Terms Certain. Thus, at age 30, a healthy man may effect an 'Endowment-Assurance' policy for £100, payable in full at death, or at 55, whichever happen first, in consideration of a yearly payment of 3l. 19s. 10d. Hence, to liquidate an advance of £100 his first payment would be 3l. 19s. 10d. and 7l. 19s. 10d. afterwards until the age of 55, if he should live thereto; all debt ceasing if he die previously.

In like manner, the premiums may, also, be paid half-yearly or quarterly, at will.

21.—As very many of the lives assured (on account of the necessity of centralization of the company's mortgagors or borrowers into as few localities as possible), would be co-existent under the influence of the same climate, or of the effect of similar other contingencies, no precaution would avail to protect the Life department against the loss, which a calamity, such as a fatal epidemic, might occasion; and, consequently, if adopted abroad for some of our colonies, the objects of the plan proposed, would possibly not be attainable at the ordinary average rates of premium.\*

22.—A few general objections have been offered by those, who have been unwilling to believe in the practicability of the scheme. Amongst others, it has been urged that the principle of Freehold Life Assurance creates an immoral tendency, by giving to the heirs of a farmer an interest in his death. But the same objection applies, and with equal truth, to general life assurance, to many cases of life annuities, and even to the law of hereditary succession, and is, in point of fact, founded on a gratuitous assumption not borne out by experience; as it is only in some instances of Burial Societies among the most ignorant and degraded peasantry, that pecuniary interest in the death of an individual has ever been shown to become a regular incentive to crime.

23.—It has also been said, that, when the Redemption annuity extends throughout a man's life, every involuntary omission of the payments, which must be expected under the nature of the engagement, will either forfeit the policy, or cause a heavy debt to be added, with accumulated interest, to his other payments, thereby increasing his difficulties, and rendering the recurrence of omissions more and more probable.

This objection might be met by a properly adjusted table of fines for irregularity of payment, and by a provision for the gradual liquidation of any extra debt, caused through unintentional neglect.

24.—Again, some fear has been manifested lest an unsuitable quality of land should fall to the company in the locality of its operations. This contingency can only be averted by the careful discrimination of the parties employed in the wholesale purchase of land to be allotted. There are, undoubtedly, many acres of land in Ireland, in this country, or in the colonies, which could not be cultivated

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\* [A properly adjusted system of extra premiums might provide against the increase of mortality which might be consequent upon a change of climate, or upon the absence of that sound medical advice and other resources for ill health and accidents which are accessible in Europe. The change of occupation and scene, and the feelings of content, which prosperity in the new country would bring, are likely to counterbalance the effect of other contingencies. Hence, the application of the principle of extra premiums, to be strictly equitable, should be effected on the mutual system of assurance; so that, in that event, the colonists may have returned to them, by way of bonus in cash or colonial requisites, that portion of the extra rate which was charged in excess. A *mutual* system of extra premiums would be all the more advisable, in the case of an extensive amount of colonial business, as the present rates charged by most of the European offices are entirely empirical, and have no real relation to any law of colonial mortality.]

with advantage; but there are also many, which require but the plough to give proofs of their fertility. Before concluding a purchase, it is to be expected that the company would avail itself of the experienced opinion of practical farmers, and other persons of judgment, both in and out of the neighbourhood, as to its probable capabilities.

### *Section II.—Of Emigration and Colonization.*

25.—Of late years, there has been abundant evidence of increased disposition on the part of the public to encourage, by the aid of these principles, systematic Emigration and Colonization, in the various associations which, under the names of emigration and colonization assurance companies, have lately been established, for the purpose of carrying them into effect. Their prospectuses state that, formerly, colonial lands were given away to emigrants, who were left to their own scattered, irregular, and unsupported efforts; no means being provided to advance their interests at home, or to supply labour to the settlement. This was Emigration without Colonization.

That, latterly, this evil has been partially remedied by the formation of companies in England, which, having obtained colonial land, retailed it to emigrants at various prices; applying the proceeds, after deducting expenses and profits, to providing a limited quantity of labour, and effecting other important objects. The main value of this improvement “consisted in the agency of the companies in the mother country, promoting and guiding emigration, directing enterprise, opening trade, representing grievances, combining efforts, and removing obstacles and difficulties beyond individual power to overcome.” The capital of emigrants was, however, the fund by which this was effected. It was Colonization by Emigrant Capital alone.

26.—The new companies contemplate not only emigration, but systematic colonization, by introducing a new element, viz. by bringing, not only the capital of the emigrant, but that of England, together, to bear upon the wilderness; so as not to require the emigrant to pay for land entirely out of his capital, but out of the profits to be realised by the joint operation of his own labours and of the company’s fostering exertions. They desire to effect Colonization by English and Emigrant capital united.

27.—The first inducement to emigrants is presented in the adapting for them wide tracts of land to productive agricultural enterprise, through arterial and thorough drainage; by the erection of convenient farm-houses and cottages; and by the laying out of settlements, divided into such allotments, as may be found expedient for the purpose of sale and disposal. When the land has been so prepared, it would be let out, with other requisites, to the emigrating colonist who has but small means, that he may, by the payment of a rent charge, during a specified term of years, at the end of the period, become absolute possessor of the land for ever:—this rent charge being calculated on the freehold assurance



principle of affording to the shareholders of the company a fair rate of interest for the use of their money, and of re-placing the capital expended.

28.—The companies to which we allude are not all confined, in their operations to one locality; for it is generally acknowledged, that the principles both of freehold assurance and freehold investment may be advantageously adapted to the facilitating of an extended scheme of colonization of the vast tracts of country which, in almost every part of the globe, form appendages to the British empire. The unprecedented extent to which emigration takes place in the present day is well known; the number of persons\* annually leaving the shores of this kingdom being now of very great magnitude. Emigration, to any extent, in so far as it is casual and

\* [The following particulars are extracted from the Reports of the Emigration Commissioners:—

“EMIGRATION FROM THE UNITED KINGDOM DURING THE 42 YEARS, FROM  
1825 TO 1866 INCLUSIVE.

Years.	United States.	British Colonies.	Total.	Years.	United States.	British Colonies.	Total.
1825	5,551	9,340	14,891	1846	82,239	47,612	129,851
1826	7,063	13,837	20,900	1847	142,154	116,116	258,270
1827	14,526	13,477	28,003	1848	188,233	59,856	248,089
1828	12,817	13,275	26,092	1849	219,450	80,048	299,498
1829	15,678	15,520	31,198	1850	223,078	57,771	280,849
1830	24,887	32,020	56,907	1851	267,357	68,609	335,966
1831	23,418	59,742	83,160	1852	244,261	124,503	368,764
1832	32,872	70,268	103,140	1853	230,885	99,052	329,937
1833	29,109	33,418	62,527	1854	193,065	130,364	323,429
1834	33,074	43,148	76,222	1855	103,414	73,393	176,807
1835	26,720	17,758	44,478	1856	111,837	64,717	176,554
1836	37,774	37,643	75,417	1857	126,995	85,970	212,875
1837	36,770	35,264	72,034	1858	59,716	54,256	113,972
1838	14,332	18,890	33,222	1859	70,303	50,129	120,432
1839	33,536	28,671	62,207	1860	87,500	40,969	128,469
1840	40,642	50,101	90,743	1861	49,764	42,006	91,770
1841	45,017	73,575	118,592	1862	58,706	62,508	121,214
1842	63,852	64,492	128,344	1863	146,813	76,945	223,758
1843	28,335	28,877	57,212	1864	147,042	61,858	208,900
1844	43,660	27,026	70,686	1855	147,258	62,543	209,801
1845	58,538	34,963	93,501	1866	161,000	43,882	204,882
Total...3,689,151, viz., United States, 2,224,412, British Colonies, 5,913,563							

Average Annual Emigration from the United Kingdom for the last forty-  
two years . . . . . } 140,799.”

A comparison with the rate of increase of the population is interesting: by the Census  
of 1821 the population of the United Kingdom was ... .. 21,193,000  
1831 ... .. 24,307,000  
1841 ... .. 26,917,000  
1851 ... .. 27,452,000  
1861 ... .. 28,922,000

The apparent average Annual increment of Population in the 10 years from 1821 to 1831 is 1.40 per cent.; that in the next period only 1.02 per cent.; from 1841 to 1851, 0.99 per cent.; from 1851 to 1861, 0.54 per cent.; we observe, therefore, the important effect, which Emigration has produced on these results.

2. During the 19 years from 1848-66, nearly 14 millions sterling have been remitted from settlers in North America to their friends in the United Kingdom.

3. The following memoranda, relative to those localities to which Emigrants mainly resort, illustrate their main characteristics:—



unsystematic, does not form one step towards colonization, properly so called ; nor can it be of much advantage to this country, as it cannot permanently diminish that disastrous competition, both in labour, and capital, which is the origin of distress. The capitalist (speaking generally), will not direct his attention to colonial investment while the supply of labour which would alone make such investment profitable is insufficient or fluctuating. The poor labourer, who is unable to find continuous employment in this country, and who is, therefore, willing to emigrate, and carry the energies, which are superfluous at home, to any part of the world, where he may turn them to account, is compelled, by the circumstance of his poverty, to remain where he is and suffer a life of dependence and distress. The majority of emigrants must consist of persons whose means, though too scanty to shelter them from the pressure of competition at home, are yet sufficient to pay the cost of their passage and to maintain them for a time on their arrival at their destination ; a preliminary outlay which absorbs a large proportion of their means, so that they

<i>" Country.</i>	<i>Acres.</i>	<i>Remarks.</i>
Australia, Western.....	21,000,000.	Amount purchased in fee and in occupation, about 4 million acres. The climate is temperate and has been generally found to be healthy to Europeans. There are no droughts like other parts of Australia.
New South Wales .....	102,000,000.	The soil is about the best in the whole Island.
Victoria.....	32,000,000 in runs, 530,000 under cultivation.	Population 627,000, of which 258,000 are at the Gold Fields.
Tasmania .....	Contains 23,437 square miles.	Has attained a higher perfection, in an agricultural point of view, than any other of the Colonies.
South Australia .....	192,000,000 acres.	About 3,200,000 acres have been sold. The demand for labourers in Australia is yet even great ; also for mechanics, such as blacksmiths, carpenters, and bricklayers ; but for artisans and mechanics of a high order there is scarcely any demand.
New Zealand .....	60,000,000.	Perhaps in the whole world there is not a superior climate. Soil admirably adapted for Colonization.
Cape of Good Hope, and Natal .....	12,500,000 in Natal alone.	Climate good. Presents much attraction for small capitalists. The cultivation of coffee, cotton, sugar, and even indigo and rice, have been attended with good results.
Canada, Upper .....	64,000,000.	There are about 4,000,000 acres available. Soil fertile. Climate : cold of winter not so severe as in Lower Canada. In addition to indigo, cotton, and tobacco, its mulberry trees are cultivated.
„ Lower.....	137,000,000.	Nearly 10,000,000 acres available for settlement. Winter severe. Climate generally favourable, but there are many unhealthy districts.
New Brunswick .....	18,900,000.	12,300,000 vacant, 6,600,000 granted, only 50,000 cleared.
Newfoundland .....	2,300,000.	Soil productive, if properly cultivated ; but emigrants, and the colonists themselves, pay more attention to the fisheries."

The whole of the British Provinces in North America are calculated as embracing 4,000,000 square miles.]

have little left for prospective improvement. Emigration, therefore, did not promise to be of much utility in relieving the distress of the labouring classes at home, or in furthering the colonization of our foreign possessions, until Mr. Wakefield proposed a system of colonization, the main principles of which, *viz.*, the sale of colonial lands at a uniform price, and the application of the proceeds of such sales to the carrying out of young and healthy labourers of both sexes, deserved general approbation. The scheme was, indeed, evidently calculated to obviate the defects which have been indicated as attaching to unsystematic emigration, as its application would obviously tend to relieve the pressure in the labour market, and at the same time, offer to capitalists a good prospect of advantageous investment in colonial land, giving assurance of the certainty of obtaining the supply of labour requisite to make it productive and profitable. Its practical application, however, is open to several objections. In a colony to be constituted according to Mr. Wakefield's theory, the necessity for a plentiful supply of labour would be urgent at the beginning of its existence, when, nevertheless, the land sold would probably be of so small extent, that the sums arising from such sales would be inadequate to furnish that supply. Hence, it has become a question whether it might not be expedient for the infant colony to raise a fund for the importation of labour, by means of a loan, negotiated on the security of future land sales; it being supposed that, with a guarantee from the mother country, such a loan could be obtained at a moderate rate of interest. The expediency of such a proceeding, under the above circumstances, has been indicated with great clearness by the late Mr. C. Buller, whose opinion must be always entitled to respect :—

“No doubt, great caution would be requisite in thus forestalling the resources of a colony; but, on the other hand, a debt contracted for such a purpose is not an unproductive waste of capital, such as the national debt, nor is it to be likened to the debts of individuals, contracted for the enjoyment of the moment. It is rather to be compared to those debts which wise landlords often deliberately contract, for the purpose of giving additional value to their estates, or to the loans by which half the enterprises of trade are undertaken, and which are to be regarded as sources of future wealth, not of embarrassment.”

29.—Mr. Wakefield's system, in its original shape, only offers the means of advantageous emigration to labourers, and holds out, thereby, an inducement to capitalists to direct their attention to the colonies. It is not of equal benefit to that numerous class, so eligible as colonial emigrants, who are possessed of a small amount of capital, and whose intelligence and activity fit them for a situation above that of the hired labourer. The necessary outlay in the purchase of land for improvements thereon, and of the implements of farming, is, moreover, not unfrequently, so large, compared with the means at the disposal of such emigrants, as, for some time, to cripple their exertions.

30.—The true Art of colonization consists, therefore, not in the creation of over-grown farms, in the hands of a few capitalists, with hired labourers, whose

condition is not much better than it would have been in England; but in the affording of facilities to the emigration and subsequent well-doing of the medium class of persons, who are, even at home, by dint of industry and prudence, accompanied with the possession of energy and forethought, and no inconsiderable share of information, able to live on and effect small savings; and who, naturally enough, might be disposed to emigrate to a new country, where their lot would be somewhat less arduous. The object of a parental government should be, not to get rid of the ignorant and poor who, for that very reason, are not fit to become the basis of a new colony, of which they would be in preponderance of number, but to supply the younger country with individuals possessing those qualities of intelligence and moral character, which are even more required from them abroad than at home. Let this be done, and, the pressure from above of over-population being removed, even the worst class of those who remain, would speedily rise to the level and improve both in their nature and worldly condition.

31.—For this purpose, no legislative facilities have yet ever been accorded, or even contemplated; and it is left to the union of private enterprise and capital, to supply those means for systematic emigration and colonization, which are daily more and more felt to be required. This is the object of a Freehold Assurance Company and of the system of Benefit Emigration Societies, of which details are given in the next section.

32.—To bring the Art of Colonization within the comprehension of the industrious classes, it is necessary to interest their minds and pecuniary ambition in the subject. The control and advocacy of the movement must be committed to their diligence and sympathy. It is not by the reserved and distant-mannered representatives of a great company, that their co-operation in systematic colonization will ever be obtained, or the Art be developed to perfection; but by the Super-association—if we may be allowed the term—of a series of industrial associations united for the furtherance of the same popular object.

On the locality to be selected, as the basis of any colony, we express no opinion, since that does not form part of the object of this work. Much, nevertheless, might be said upon the question, if into consideration be taken the relative distances of the colonists' future habitations from this kingdom, and the greater or less diminution which must arise in the available means of their support left unexpended at their arrival. The difference in expense of maintenance during passage to a colonist, or to the country that sends him out, varies materially according to whether the rendezvous of emigration be the British provinces of North America, which, at but 2,500 miles' distance, can be reached in ordinary sailing vessels in some 30 days, or the Australian colonies, that require, by the speediest method of transit upwards of 60 days to arrive at the end of a journey of 14,000 miles. On a large body of emigrants the effect of such a difference in expense would be of essential importance, and, to balance it the land to be purchased should be at a much lower price, which is the reverse of the fact at present.



The broad principles of the Art would, in any case, be the same: to draw closer the ties between the colonies and the mother country; to reproduce England on the other side of great oceans; to create for her superabundant population institutions, feelings, and a state of beneficial civilization, as near akin to that of this country as possible; and to induce the parent to promote her own interest by watching after the future welfare and by strengthening the hands of her children: so that, through discontent and indignation at neglect, they may never be led even to consider the possible advantages of Separation.

*Section III.—On the Formation of Benefit Emigration and Colonization Societies.*

ART. 33.—It has been suggested that Benefit Emigration Societies\* should be formed for the purpose of carrying out, with the view to systematic colonization, the principle of Freehold Assurance, in union with that adopted by the ordinary Benefit Building Societies. That the system of Freehold Assurance has not yet come into any very extensive operation can be attributed only to the difficulty of creating the large capital requisite. It is, therefore, proposed that, in co-operation with the central company, possessed, intentionally, of but a small capital itself, there should be associated the system of the Investing shareholders of a Benefit Building Society; or, in other words, that the requisite funds should be created by small instalments, payable by way of periodic subscriptions to Branch Benefit Emigration and Colonization Societies, to be established in all parts of the kingdom.

34.—The money subscribed by the investing shareholders to be applied, through the agency of the central company, to the wholesale purchase of land in a small number of selected localities in the colonies, to be mortgaged in allotments to such of the † branch members as desired to become colonizing

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\* [The more recent Friendly Societies Acts contain express provisions for the encouragement of Benefit Emigration Societies.]

† [That admirable lady, Mrs. Chisholm, tested, by experience, the perfect safety of according advances even to emigrants of the poorest class. In a notice relative to the benevolent Loan Colonization Society, which is under her auspices, we find it recorded "that loans, made on a very extensive scale, in aid of passage money, on the joint security of successive bodies of emigrants, have been, with inconsiderable exceptions, repaid with honourable punctuality." The principle of that society is to help the poor man by enabling him to help himself. By careful and excellent arrangements its ships afford a passage to an adult for only £12; to a child below 15 for £6. Of this he is required to pay down one-half; the society then lends him the remainder, and has agents in Australia who secure repayment of this loan within 2 years after his arrival. Thus the poor man's own frugality and self-denial are called into play, and the society makes them available for his emigration. "Upwards of 200 poor people, who have been paying their little weekly instalments for nearly two years, have now subscribed, in this way, £1,500, which is more than their quota. The loans, when repaid, go to equip another ship, and then another; so that £10, in the course of time, may send out many emigrants, saving them from probable starvation at home, and, at the same time, bringing into action their own virtues of prudence and industry." (Note 1851.)]



tenants. The available means of each Benefit Society would be continually increasing, by the taking up of new shares by fresh investors, and by the repayments of colonists, which, together, would come in so rapidly as to regenerate continuously the lending fund. Many persons might join such a society for a limited period, as 10 or 12 years, either to obtain possession of small allotments of colonial land, previously improved by sufficient preparation thereon, in the nature of drainage, roads, &c., (which could be effected by the central company at a moderate cost in the gross, and yet, when subdivided, yielding to it a sufficient profit,) or to receive at the end of that time, counted from the month of their entry, the amount of the subscribed shares in full, equivalent to the accumulation of their subscriptions, at a reasonable rate of compound interest.

35.—The Central Company would thus act as the agent of numerous Benefit Societies. It would, in fact, be the super-association of separate groups of associating individuals, and would be able to perform, or cause to be effected, all that would be out of the power of one branch society. The company would be essential to them, and they would give vitality to it. Hence, undiminished power would be secured for carrying out, for ever, the object for which the colonizing company was originally formed; even though the membership in the local benefit society of each investing shareholder, on the one hand, and of a borrowing tenant, on the other, would be limited. The *surplus* profits of the central association would be periodically divided among the shareholders thereof, a portion being reserved to be carried to the credit of the shares of the branch societies, as an encouragement to persevere, and it might be made payable to the subscribers at the expiration of their membership. The profits to be divided would be materially increased by the power, which a *permanent* institution has of benefitting by that augmentation, in the value of the *reserved* lots of land, which would be consequent on the general improvements introduced on the property. Practically, the position of the tenants would be the same in either case, but by the aid of Branch Benefit Emigration Societies, that main difficulty would thus be removed, of obtaining the desired capital, which, in all enterprizes, has been found to consist in the natural unwillingness on the part of the public to sink, as proprietors of a Company, large sums at once, for an indefinite number of years. By the plan proposed, the necessary funds would speedily be obtained, through the small contributions of the multitude of provident persons who exist in this country.

36.—It is not considered that there would be any obstacle to obtaining investors for the Benefit Emigration Societies, since the agency and protection of the Central Company would ensure to them as good, if not better, security, as in the ordinary mutual associations which exist in such numbers, and of which the pecuniary resources have attained to such large amounts. The security offered, being *freehold* land, would increase every day in value from

the improvements which the tenant farmer would introduce upon it; and, from his repayments being made in gradual instalments, the risk of each branch association would be gradually on the decrease. Also, from its being a subscription society, the managers, at all times, would have the power of extending, curtailing, or putting an end to its operations.

37.—For unity of design and simplicity of working, the freehold mortgagors should have their lands, as much as possible, situate in the vicinity of each other, so that the collection of rents may be facilitated, and the expense of the same kept within a small limit. It is evident that such a combination would give rise to many settlements. Half-a-dozen emigrants from each of 100 associations would at once constitute an important nucleus of 600 individuals co-operating together. The nature of such Benefit Emigration Societies is such as to ensure their legal existence by the power reserved in the clauses of the Friendly Societies Acts, and if Life Assurance contingencies were also undertaken, that department would be singularly benefited by the other privileges appertaining to that Act. The operations of the central company and the branch benefit societies should be kept perfectly distinct, both as regards the deed of the one and the registered rules of the others. The only connection between the two consisting in the protection, influence, and assistance which the centre would afford to the branches; in the watchful attention to their rights, both at home and abroad; in the securing for them all the advantages that would accrue from the purchase and sale of land, with other requisites, at wholesale prices; and in facilitating, by the power which an important company alone can possess, the progress of the emigrant from his native country to the spot of his selection, without the regrets and discomfort that have, too often, been, hitherto, experienced by those who have endeavoured, single handed, to better their fortunes in another land.

38.—Moreover, the agreement of a number of benefit emigration societies, to make use of the agency of one central company\* for the furtherance of their objects, would justify the expense, on the part of the latter institution, of appointing *Labour Referees* in the leading towns of the colonies, whose duty it would be to keep up constant communications with the head quarters in England, upon the state of the labour market in each seat of colonization, in order to procure, not only information of the probable chances of those emigrants who do not purchase land, obtaining employment, but even to secure it for them on their arrival; and, in fact, to provide the benefit societies in the United Kingdom, through the instrumentality of their centre, with periodic authentic details, upon every colonial subject that is likely to interest the members.

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\* [It may be thought, with some justice, that the place of such a central company should be taken by a parental government, as having all the means and appliances ready at hand to carry out the desired object. In our opinion, however, an ordinary joint-stock company, with sufficient privileges and powers obtained from Parliament, suitable to the vast national importance of its operations, would find its advantage in undertaking the business, as a simple commercial speculation, where the profits would be large, and the risk inconsiderable.]

39.—Colonists of European extraction would probably associate themselves for the purpose of lending aid to their fellow countrymen, not to meet their pecuniary wants, but to furnish them with counsel and guidance, and by information transmitted from time to time to assist in preparing the emigrant with a knowledge of his prospects and difficulties on arriving at the colony of his selection.

40.—The rules of all the Branch Societies might be similar in their leading details, which may be shortly resumed thus:—They should be formed on a principle analogous to that of a Benefit Building Society; the only real difference being in the purposes to which the funds of the society are to be applied; instead of advancing the money towards the purchase of houses or land in England, the object would be to gratify the desire of emigration. Intending emigrants would join a Benefit Society as investors, and perform the conditions attached to that position; after they have acquired sufficient standing by rotation or by ballot they would become eligible to be sent out as colonists; that is to say, land and other requisites would be supplied to them at a price, either to be paid for at once or by gradual instalments.

41.—The following extracts from a set of rules that we have prepared, as suitable for the object under consideration, will serve to illustrate the principle;—viz.:—

“THE \_\_\_\_\_  
BENEFIT EMIGRATION AND COLONIZATION SOCIETY.”

£50 Shares. Weekly payments, \_\_\_\_\_ per share. Entrance Fee, 2s. 6d.  
per £50 Share. Half-shares of £25 may also be taken.

I. *Name and Object of the Society.*

This society shall be called the \_\_\_\_\_  
Benefit Emigration and Colonization Society. Its object is to raise a fund to enable its members to emigrate, and, if they desire it, to receive an advance in full, or in part, of a share or shares, for the purpose of purchasing land and other requisites in any part of the Colonies dependent on Great Britain (or of the United States of America), on a system of purchase; also to enable provident persons, who may have no immediate desire of emigrating, to invest their savings, at interest, in subscriptions upon shares to be received in full, out of the funds of the society when realized.

II. *Here set forth the Time and Place of Meeting.*



### III. *Power of Investment.*

The Directors may invest the whole or part of the funds of the Society, either in Land securities or on the security of debentures bearing interest, not lower than — per cent., to be given by the — Emigration Company of London. The said debentures to be undertakings on the part of the said — Emigration Company, that it shall be liable for all monies so invested, until the same be either repaid, with the above rate of interest, or be accounted for, pursuant to agreement, in land and other colonial requisites, provided for such members of this Society, as may become emigrants, on such terms as the boards of directors of the — Emigration Company of London, and of this Society, may jointly settle.

### IV. *Share Subscriptions.*

The shares shall be of the ultimate value of £50 each, to be paid to each member, at his option, in money, or in general requisites for emigration, in allotments of land, &c. &c.

#### CLASS 1.

Entrance Fee 2s. 6d. Subscriptions ——— per week until the said subscriptions, with a proportionate part of the profits of the society (to be estimated yearly), shall amount to £50. Withdrawals will be allowed on giving ——— weeks' notice, according to the terms of Table 1, rule —.

#### CLASS 2.

##### *Endowment Shares.*

Entrance Fee ——— Weekly subscription, varying with the age, according to Table 2, to amount, with a share of the profits, to £50, on the child attaining the age of 18 or 20. The whole of the amount paid in to be returned with interest, at — per cent. to the parent, in the event of the previous death of the child, or in case of his desiring to withdraw, upon his giving ——— weeks' notice.

*Here set forth the Table.*

#### CLASS 3.

##### *Tontine Shares.*

Entrance Fee ——— Weekly subscriptions, 1s. The aggregate of each year's subscriptions shall be collected into classes, according to the then age of the nominee, and credited with compound interest. At a specified age,



18 or 20,\* the accumulated results of each year's class shall be divided among survivors of that class.

No *new* nominees shall be admitted exceeding the age of 11 years for Tontine shares. The interest, yearly allotted to each class, from the proceeds of the society's investments, shall be proportionate to the already accumulated amount of money in that class. There shall be, in all, 11 classes. Into any class, the nominees in which have attained to a given age, new nominees of the same age may be admitted, on paying afterwards a proportionate rate of subscription. The payments should cease in case of the death of a nominee or nominees, and the past subscriptions become forfeit to the society. A subscriber may purchase the right to two nominations, for which the weekly payment, somewhat more than for one, shall be estimated by an Actuary, so that, in the event of the death of one nominee, he may nominate a second, out of his own family, or by the sale of his nomination right to some other person:—the new nominee partaking of all the privileges of the first.

Single deposits will be received in composition of future weekly payments.

TABLE 3.

Age next birthday.	Week's payment for a	
	Single Nomination.	Double Nominations.
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

Half-shares may also be issued on payment of an entrance fee of 1s. 6d., and half the weekly subscriptions for whole shares. An allowance, to be fixed, from time to time, by the consulting actuary, will be made on all subscriptions paid in advance, for a period of not less than twelve months.

#### V. *Advances and Repayments.*

Sums of money, from £25 upwards, may be advanced to those members, who have paid at least one year's subscriptions, according to the scale of re-

[\* If 1000 infants of both sexes were enrolled in a Tontine, and £100 staked upon each of them, the survivors at 20, supposing the money to have been, meanwhile, invested at 5 per cent. compound interest, and their number to be 660, would receive a part of £265,320, or £402 each for the £100 originally invested. This remarkable increase in the value of money, contingent upon lives, may, evidently, be adapted with advantage.]

payments in Table 4, with such security as the directors shall consider adequate and sufficient.

*Here set forth the Table.*

Provided, that a certificate be obtained (in the case of money being advanced to a member who has purchased therewith land, through the — Emigration Company of London), that the land, so purchased, is adequate security for the same. The sum, for which security by a mortgage on the allotment of land is taken, shall be the difference between the amount of money advanced and the total of the net subscriptions paid up by the borrowing member. Provided, that such net subscriptions be first charged, with all necessary deductions for arrears of fines, fees, &c., and with a proportion of the past expenses and losses (if any), of the society; provided also, that, towards the liquidation of his repayments, the borrower be credited with his proportion (if any), of the profits of the society, that may have been realized, in the opinion of the consulting actuary, previous to the time of his (the borrower) obtaining an advance. In no case shall the amount of money advanced exceed two-thirds of the cost of the land which the borrower purchases.

In consideration of the aforesaid repayments, borrowing members shall not be called upon to contribute any other sums after the date of their advances towards expenses or contingencies, excepting such fines, transfer or other fees, as are hereafter mentioned in these rules.

Any member for whom an allotment of land shall have been procured, shall, within a period previously agreed upon, be ready to proceed to the place where it is situated, and to occupy the same, subject to the forfeit of a sum not exceeding one half of his paid-up subscriptions, unless the board of directors of the — Emigration Company of London shall give an extension of time, or unless he succeed in procuring another member to go out in his place, in which case a transfer fee of — shillings shall be paid by him to the general fund of this society.

The expenses of legal enquiry into the purchase of the property, and of the survey, shall be borne by this society.

The repayments, in case of advances made upon lands in the colonies (to a value exceeding the net amount of a member's subscriptions), shall be made at the end of the first year next following the arrival of the emigrant to the seat of his allotment, and shall continue, after that, to be made for the full period for which the advance may have been originally taken, unless the mortgage be previously redeemed; and, in all cases, such repayments shall be due on the first days of January, April, July, and October in each year, and be respectively made thereon.

The directors may make arrangements with the ————— Emigration Company, that all Rents, and other payments due to this society, may be collected and received on its behalf, by the instrumentality of the ————. Emigration Company, at such remuneration, by commission or otherwise, as may be agreed upon.

This society will receive deposits of any sum not less than £5, allowing interest at a rate not exceeding — per cent., payable yearly.

#### VI. *Security for Advances.*

[This, and additional rules, will be required, similar to those of a permanent benefit building society. The mortgage and conveyance deeds must be settled according to the laws of the colony or state where the land is situated.]”

## \* APPENDIX ON THE TONTINE PRINCIPLE

### AND ITS

#### APPLICATION TO ASSOCIATIONS FOR LAND INVESTMENT.

ART. 1.—In a Tontine Company, instead of every member reaping an equal benefit from the association, the ultimate main advantages, whether in the acquirement of a large capital or other property, are obtainable only by one member, or by that limited number of individuals, out of a large body, who may prove to be endowed with extreme longevity.

2.—In the year 1644, a Neapolitan, named Lorenzo Tonti, came to Paris, and, during a scarcity of money which then prevailed, proposed the formation of a kind of Life Rents or Annuities, which subsequently were designated, after him, Tontines, although the principle itself was in operation in Italy before his time. The Tontines, so proposed, differed from the afterwards ordinary popular lotteries in the contingency of the increasing, and maximum, advantage being deferred for many years, with the assurance only of a moderate profit beforehand, beginning at a definite rate. After tedious disputes in regard to his original proposal, which was at length rejected for a time, he substituted, in its stead, a new plan for a large *Blanque* or Lottery, which, in 1656, obtained the royal approbation.† It was to consist of 50,000 tickets, each at two Louis d'Ors so that the whole receipts would amount to 1,100,000 Livres (the Louis d'Or at that time being only eleven Livres); from this sum 540,000 Livres were to be deducted for building a stone bridge and an aqueduct. The expenses of the *Blanque* were estimated at 60,000 Livres, and the remaining 500,000 Livres were to be divided into prizes, the highest of which was 30,000 Livres. This lottery was never carried out. After some delays, by which the matter was retarded until after the peace in 1660, a Lottery was finally opened, and the tickets, at a cost of one Louis d'Or, were drawn publicly under the inspection of the police. The highest prize was 100,000 Livres, and was won by King Louis XIV. himself, who objected to receive it, and left it to the next Lottery, in which he had no ticket. Several other Lotteries followed to such an extent, that, in the year 1661, it was ordered that all private lotteries should be forbidden under severe penalties, and this prohibition was repeated in 1670, 1681, 1687, and 1700. Since that time no other pure money lotteries have been allowed, but the "*Loteries Royales*," the profits of which were, in general, nominally, applied to public buildings, as was the case in regard to the magnificent Church of St. Sulpice in Paris.

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\* [Extracted from the 1851 Edition of the Treatise.]

† [See an interesting account of Lotteries and Tontines in the History of Inventions by Professor Beckmann of Göttingen.]



3.—The first actual Tontine upon Lives was created in the month of December, 1689, and was practically an Annuity association. It was divided into 14 classes of an annual revenue, in all, of 1,400,000 Livres. The Shares were 300 livres a-piece, and the proprietors, without regard to sex, were to receive a yearly dividend, commencing at 10 per cent., with benefit of survivorship by way of increased income in each class. The first class contained children under 5 years of age; the second was composed of others between 5 and 10; the third from 10 to 15; and so on for the other classes.

This Tontine was very imperfectly filled up; for, into the first class, there entered only 202 members, and equally few persons into the others; yet many other French Tontines were formed, subsequently, in 1696, 1709, 1733, 1744.

In the year 1726, the French King united the 13th class of the first Tontine, with the 14th of the second, all the shares of which were possessed by one person, Charlotte Bonnemay, the widow of Louis Barbier, a Surgeon of Paris, who died at the age of 96: this lady had ventured a stake of 300 Livres in each Tontine, and, in the last year of her life, she had for her annuity 73,500 livres, or nearly £3,600 a year for about £30.

4.—The last State Tontine in France was in 1759; after which an impression arose, very justly, that, as the lives did not die off so speedily as was expected, the rate of annuity allowed, in redemption of the capital subscribed, with interest thereon, was very onerous; hence, in 1763, the Council of State decided, that this sort of financial resource for the creation of capital for governmental purposes should not again be resorted to.

5.—In England and Ireland, as well as in France, various Tontines were established in the last and present century, some of which are still in existence. The object, originally, in France, was (as we have seen) to raise large sums of money, as a species of loan, to be repaid, principal and interest, by periodic dividends, which were to continue until the death of all the lives, the whole existence of which represented the duration of the loan. Such was the case where Tontines were created for the benefit of the state, when they were divided into classes, according to the respective ages of the members. The whole periodic income of each class was divided among the survivors of that class, until, at last, it fell to one, and, upon the extinction of that life, reverted to the power by which the *Redemption* Tontine was created, and for which it became security for the due payment of the annuities. In this kingdom, however, the system has rarely been adopted as a measure of finance, and the speculation has generally been of a private character, to effect some commercial enterprise; in which latter case the whole capital invested, or the result thereof, whether property purchased or otherwise, fell to the lot of the last survivor. The lives, previously existing, having participated in the increasing dividends of the company.

6.—The last of the State Tontines in England was opened in 1789, and

was to consist of about 10,000 shares of £100 each, but only 3,518 lives were put in by the subscribers. To keep faith with those who held to the original contract, the Treasury was obliged to take the remaining shares, and to appoint a nominee for each, who were thence called "*Government nominees.*" They were chosen as follows:—the class under twenty consisted of the children of the nobility and gentry whose names, age, parents, and residence were returned by the clergy of the several parishes; the other elder classes consisted of well known freeholders of property, persons assured in the Amicable Life Office, and so on.

Among the 22,352 nominees altogether registered by Mr. Finlaison, there was only one instance of a person passing the age of 98; an old lady at Wimbledon, who lived to be 100 years old, and who, as it chanced, was in the first Tontine of 1693. On this point, he remarks, that when, in statistical statements, many instances are set down of old people passing their 100th year, and some dying at much more advanced periods, there is reason to suspect very great error, from the well known propensity of octogenarians, and the impatience of their relatives, to exaggerate their age, and to persist in the same story, until, by the decay of their faculties, they believe it themselves.

The \*following facts are interesting:—

1. Of the 1002 nominees in the English Tontines of 1693, the last died in 1789.
2. Of the 2552 lives in the Exchequer annuities granted 1745, 1746, 1757, and a few in 1766, 1778, and 1779, 156 still survived at January 1826.
3. Of the 3557 nominees in the 3 Irish Tontines begun in 1773, 1775 and 1778, respectively, 1564 survived January 1826.
4. Of the 3518 nominees of contributors in the Great English Tontine in 1789, 2203 survived January 1826.
5. Of the 4831 nominated (by lot) by Government in the Tontine of 1789, 3008 survived the same date, 1826.

7.—Tontines are separated into simple and compound: the Simple are those in which the dividend of the shareholders, who have died before a period of participation, are distributed among the surviving members of their class; Compound Tontines are those, where a portion, only, of the dividends belonging to the lapsed shares is carried to the survivors; the remainder ceasing with the death. An example of this is afforded by the French Tontine of 1734, in which one-fourth of the periodic dividend on each share ceased with the death of its possessor. In subsequent Tontines, other varieties existed, where even half, and more, of the dividend lapsed with the life, a portion of that, which had accrued before a death, being presented

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\* [In each case the lives selected were principally children, and more especially girls, although some few contributors nominated lives even of advanced age, up to 50 and 60.]

to the families of the deceased as a slight alleviation of their pecuniary loss. In the celebrated tables of \*Deparcieux, calculations have been given of the duration of life among the Tontine members of his time. They tend to show how little the desire to nominate select lives availed the speculators of that period.

8.—Since that epoch, France has become noted for the extraordinary popularity of the *Temporary Tontines* usually denominated “*Banques de Prévoyance*,” which have been established in Paris and the leading provincial towns; the term of the Tontine being short, and divided generally into cycles of 5, 10, 15, and 20 years. The members, on entry, pay for each share or policy a sum down, varying with their age, to be invested in public or real securities; and they speculate upon the chance of their receiving as one of the survivors, at the close of the cycle into which they have entered, a large return for the money subscribed, consisting not only of the accumulations from interest upon their own shares, but of a portion arising from the death of less fortunate members. Many men, especially of the military profession, who had, perhaps, no relations to whom they were particularly attached, on receiving prize money for their services, placed it in a temporary Tontine. They felt indifferent to the chance of loss, should they die before the end of its term, by the fortune of war, or by the ordinary law of mortality, and were willing to stake that risk against the more agreeable prospect of reaping profit from the speculation. †From the returns of 18 societies we find that they are considered very attractive; At the close of the year 1849, 395,446 Policies were in force, involving shares subscribed to the extent of £15,957,444 12s. (or 398,936,114 francs) which had been purchased at a cost, proportioned to the age, of £4,988,252 5s. 6d. (or 124,706,307 francs), each share or policy entitling the possessor, if he survive his particular cycle, not only to receive its amount, but also to participate in a proportionate part of the other accumulations arising from death. The aggregate capital is stated to produce, annually, an average income of £230,591 4s. 10d. (or 5,764,781 francs), merely from being invested.

Of these ‘Associations Tontinières,’ one of the most flourishing appears to be “*La Caisse Paternelle*,” which is said to number 57,276 Policies or shares in existence, to the extent of £3,107,792. 8s. (or 77,694,810 francs).

Another, ‘*La Prévoyance*, créée par ordonnance royale du 28 Avril, 1820, in its printed returns of 1848, stated that shares amounting to 70 millions of francs were subscribed for, at a cost of 31 millions of francs paid in. A cycle having been recently completed, M. Dubroca gives the amount of its engagements, on the 31st December, 1849, at 58 millions of francs, nearly.

The following are illustrations of the profit said to have been divided (ages not given) by “*La Prévoyance*” :—

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\* Essai sur les Probabilités de la durée de la vie humaine, 1746.

† Revue des Assurances. J. Dubroca, 1850.



		Francs.		Francs.	
A.B.	A Governess...1831	paid in...	200 for... 5 yrs. & then } received }	1448	
C.D.	„ Brewer .....1828	„ ... 100 „...10 „ „ „	590		
E.F.	„ Priest .....1837	„ ... 6000 „... 5 „ „ „	9064		
G.H.	„ Councillor } of State. }	1824 „ ...10000 „...20 „ „	39213		
I.J.	„ Captain of } Artillery }	1831 „ ... 500 „...15 „ „	2071		

The professions suggest the probable ages of the parties, and shew that the investment has been highly lucrative, more especially if we remember the time it usually takes for money even to double itself. Many causes have tended, in France, to make the result of the Temporary Tontines very profitable to the survivors; the principal were, undoubtedly, the increased rate of mortality in that country for 30, out of the last 60, years, through revolutions, war, and other contingencies, and the high rate of interest which, during that time, could be obtained for money.

9.—The older form of Tontines has lately been revived in England with various modifications. New societies have sprung up, stimulated by the very great profits that have been reaped by surviving members of old associations, and principally designed by their promoters for the disposal of freehold or long leasehold property, for which a *single* purchaser, of sufficient means, could not be found. The object is, consequently, to procure the necessary capital for the purchase of the estate, by creating a large number of Shares, of small amount, among which the net rental may be periodically divided. The duration of each proprietor's interest in his share, or shares, is thus made to depend upon the existence of some life, nominated by himself, of an age to be selected within given limits.

10.—In some Tontines, the maximum age is 10 or 15; in others it ranges up to 50 or 60, and even 80; sometimes the mention of any limit is omitted, in which case discretion is left to the shareholders to nominate young lives, at ages, which appear to them, or which experience has shewn, to give the longest expectation of life. With the falling in of the life of the nominee, the share becomes cancelled in the ordinary way, and the income of the Tontine is divided among the survivors; year by year the number becomes smaller, and the dividends greater; \*until the last life, unless it has been otherwise provided, comes into the whole of the property. The application of the Perpetuity Tontine system to land, or, rather, of Land investments to Tontines, obviously requires great caution. A piece of land is bought at a cost absorbing the greater part of the fund, which is formed by the subscriptions of the members; and, if necessary, according as the situation is urban or rural, it is built over with houses, or converted into farms, and let upon lease; the rents received forming the income of the society. The chief

\* [That constitutes the difference between a State, or Redemption, and a private Tontine.]



point, therefore, in this, as in all land investments, is, whether the estate proposed is capable, from its situation or its nature, of being let at the required rent; as it occasionally has happened, that societies of this kind have been "got up" by the owners of land, for the express purpose of ridding themselves of unproductive property.

11.—The principle of a Tontine is, in its essence, a decided speculation, but of a kind that may be made most beneficial. There exists no moral objection to the union of individuals, who are willing to risk small sums in the hope of augmenting their fortunes, without the customary efforts of labour, intelligence, or skill, but by the lucky selection of healthy and lasting lives. In one case only, can such an association be open to censure, as involving a species of dangerous gambling, viz :—where the shareholders nominate other lives than their own. \*When, however, they speculate wholly for the benefit of the life nominated, the application of the principle is excellent. It becomes, in reality, a game, in which the stakes are laid, as to which of the players is likely to live the longest. The person, who collects the money and undertakes to pay the dividends, being regarded in the light of the banker to the game, and as one who is the responsible agent for investing the funds confided to him. So that, while reaping a percentage for himself, he holds an account with the players, as to the profits of the speculation, and hands over to them, at the end of each year, or other fixed period, the proceeds of their capital, which may be considered as interest realized since the last day of settling. In the majority of games of chance, the main advantage is to the banker, the loss to the players, who, in the excitement of gambling, are exposed to lose, even, the very means of their existence. In a Tontine, where the shareholders nominate their own lives, or the nominees are the parties pecuniarily interested, the speculation affords to them an increasing income, and the money involved is continuously reproductive.

12.—The existing Tontine Companies present little variety in their object. They are mainly designed to purchase large freehold estates, which are considered peculiarly suited, by nature and position, for some important commercial enterprise; leasehold tenures being usually rejected from their limited character. When a particular estate has been selected by the promoters, in the conviction that, by improvement thereon, it can be made productive of considerable profit, they proceed to form a Company. The capital of the Company, for example, say £100,000, is divided into 1000 shares of £100 each, to be held upon lives, of ages within selected limits. The Shareholders may nominate different lives for each share, or exercise their own discretion in concentrating their stakes upon a single life. At the end of 3

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\* Hamilton, in his History of the Public Revenue, remarks that Tontines seem adapted to the passions of human nature, from the hope every man entertains of longevity, and the desire of ease and affluence in old age.

or 5 years, and at fixed intervals afterwards (the Company being in full operation,) the rents from the houses upon the estate, or the profits from the commercial enterprise, whatever it be, after payment of expenses, are divided.

13.—To persons who are desirous of speculating, with, perhaps, less apparent pecuniary advantage, though, in the *long run*, greater security, the best Tontines are those in which the capital is invested in the purchase of well-situated Agricultural Freeholds, or in Government Stock and other public securities, and not in associations created for effecting building operations, which are conceived under the idea of the growing importance of the locality contemplated for investment. To those, however, who prefer the greater attraction of larger annual returns, such as are offered by the latter speculation, we would recommend the introduction into the Articles of the company of a special clause to secure compensation to the holders of those shares, the life nominees of which may die about the time that the company has experienced a loss, through the falling off of its rents, or other source of income, which, in investments on such security, must, from time to time, be expected. The object of the clause would be to guarantee to the proprietor of a share, that has lapsed by death at such a period, a proportionate part of the profits that may subsequently be obtained through a prosperous reaction in the company. For example:—suppose that in a Tontine, of which the rent income is about £5000 a year, and the periods of division are quinquennial, there occur, for two or three years, a failure in its receipts, so that, instead of there being a sum of £25,000 upwards to divide among the survivors at the next division, there be only £10,000 or £15,000. Then, if the original intention were to confine the speculation to the chance of survivorship, and not to affect it by any fluctuations in the proceeds of the property, it is clear that the shareholders, whose life-nominees die anterior to a revival of prosperity at a subsequent division, should receive some compensation for their loss. The mathematical principle of such a clause is interesting, and should be taken as the basis thereof.

14.—In most of the cases of the present application of the Tontine system in this country, it is customary to select a limit of minimum age for nominees, and then leave it to the option of the shareholder to nominate a life of equal or higher age, as he may think fit, when the limiting age is young. The establishment of any Tontine would be facilitated if a reduction in the cost of each share were made, in case of a life, several years older, being nominated, since it must be extremely difficult, in an extensive Tontine, for the members to find a sufficient number of select lives of the lowest specified age; and each would be unwilling to risk his chance upon the expected longevity of an older life. A diminution might safely be permitted, in the sum paid for the purchase of a share, provided it be proportionate to the diminished expectation of life of the nominee, and calculated by a sound table of mortality, with a margin in favour of the general fund. The said share, nevertheless, to convey to the purchaser a right to equal privileges with any other share.

15.—The speculation becomes much more interesting when the periods of the divisions of profits are at wide intervals; the effect of mortality at the end of periods of 5 or 10 years becomes sensible, and the accumulated income to be divided increases the attraction of the investment.

Referring to the English Life Table of Mortality, we find that, supposing the age at entry to be 15, the lives to consist of 1000 males, and the periods of division of profits to be quinquennial, the survivors of each period receive a rapid increase in their income. Suppose, as in a preceding example, that the shares be £100, and the annual returns of profit arising from the £100,000 invested be £5000, which, re-invested during the quinquennial period, would, at 5 per cent., produce £27,628, there would remain, after setting aside, say, £2628 for expenses, &c., £25,000 to be divided. Then, if deaths occur in a ratio such as that of the mortality table referred to, there would be, to partake of it, at the end of 5 years, or at age 20, 969 members; or the dividend would be

£25. 16s. 0d., nearly.			
At the end of 10 years, or at age 25	„	928 members	
Dividend .....	£26. 18s. 9d., nearly.		
„ 35 „ „ age 50	„	677	„
Dividend .....	£36. 18s. 6d., nearly.		
„ 45 „ „ age 60	„	530	„
Dividend .....	£47. 3s. 4d., nearly.		
„ 55 „ „ age 70	„	332	„
Dividend .....	£75. 6s. 0d., nearly.		

And so on, up to age 90, when the number, still existing, would be about 14, and the dividend per share, £1785. 14s. 3d., or about 17½ times the original sum paid. At 95 there would be, probably, but 2 alive to partake of the £25,000 dividend, and a few months longer would transfer the £100,000, or the property which represents it, to the last survivor, for his heirs for ever.

16.—Moreover, when the intervals are distant, the application of Life Assurance may serve to protect the parties interested in those lives, that fail in the intervals between two successive divisions, from losing, altogether, their expected share of the profits. That is to say, it may, after a few years, suit their views to diminish the excitement of the speculation, by taking out a temporary policy on the life of the nominee. This expense, however, would, probably, not be entered into, until the Tontine had been some time in existence, and unless the lives selected had been originally young. We have met with recent prospectuses of Tontines on Building property, where it is proposed to arrange with a Life Office, that, out of the income of the company, from the very beginning (after a dividend at 5 per cent. has been set aside for the shareholders), premiums should be paid for assuring the return, on the death of each nominee, of the original sum itself, invested in the purchase of the share. This undertaking, if actually carried out, must, in effect, withdraw



from surviving members the great profits, which are expected as likely to accrue from deaths. A simple calculation founded on the tables of any Life Office, would shew that such a system of assurance would, as might naturally be anticipated, reduce the Tontine (the very essence of which is, that it is a speculation on the longevity of lives), to a mere investment association, in which the capital of each member is only to be engaged to produce a moderate rate of interest, as long as he, or his nominee, is alive. Life Assurance can be properly and advantageously adopted, when the Tontine has been a long time in operation, and the nominee has survived several years of the company's existence, or when the rate of profits upon each share has become so large as to make it worth a member's while to sacrifice a small portion to assure against the chance of total loss by death. Such an assurance should, nevertheless, be left optional to the party concerned, and not be made a feature of attraction, put forth by the company itself.

17.—One of our motives for thus entering upon the question of Tontines, is to suggest, to the consideration of our readers, the excellent application that may be made of the principle to the furtherance of Home Colonization and Systematic Emigration, by creating a capital, of which free use can be made without its being exposed to be withdrawn, or to be required for very many years.

## THE BENEFIT BUILDING SOCIETIES' ACT, 1836.

(6 & 7 WILL. IV. CAP. XXXII.)

WHEREAS certain Societies, commonly called Building Societies, have been established in different parts of the kingdom, principally amongst the industrious classes, for the purpose of raising by small periodical subscriptions a fund to assist the members thereof in obtaining a small freehold or leasehold property; and it is expedient to afford encouragement and protection to such Societies and the property obtained therewith: be it therefore enacted by the King's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that it shall and may be lawful for any number of persons in Great Britain and Ireland to form themselves into and establish Societies for the purpose of raising, by the monthly or other subscriptions of the several members of such Societies shares not exceeding the value of one hundred and fifty pounds for each share, such subscriptions not to exceed in the whole twenty shillings per month for each share, a stock or fund for the purpose of enabling each member thereof to receive out of the funds of such Society the amount or value of his or her share or shares therein, to erect or purchase one or more dwelling-house or dwelling-

Societies may be established for the purchase or erection of dwelling-houses.



houses, or other real or leasehold estate, to be secured by way of mortgage to such Society until the amount or value of his or her shares shall have been fully repaid to such Society with the interest thereon, and all fines or other payments incurred in respect thereof, and to and for the several members of each thereof, and to and for the several members of such Society from time to time to assemble together, and to make, ordain, and constitute such proper and wholesome rules and regulations for the government and guidance of the same as to the major part of the members of such Society so assembled together shall seem meet, so as such rules shall not be repugnant to the express provisions of this act and to the general laws of the realm, and to impose and inflict such reasonable fines, penalties, and forfeitures upon the several members of any such Society who shall offend against any such rules, as the members may think fit, to be respectively paid to such uses for the benefit of such Society as such Society by such rules shall direct, and also from time to time to alter and amend such rules as occasion shall require, or annul or repeal the same, and to make new rules in lieu thereof, under such restrictions as are in this Act contained; provided that no member shall receive or be entitled to receive from the funds of such Society any interest or dividend, by way of annual or other periodical profit upon any shares in such Society, until the amount or value of his or her share shall have been realized, except on the withdrawal of such member, according to the rules of such Society then in force.

II. And be it enacted, That it shall and may be lawful to  
Bonus, &c.,  
not to be  
usurious. and for any such Society to have and receive from any member or members thereof any sum or sums of money, by way of bonus on any share or shares, for the privilege of receiving the same in advance prior to the same being realised, and also any interest for the share or shares so received or any part thereof, without being subject or liable on account thereof to any of the forfeitures or penalties imposed by any Act or Acts of Parliament relating to usury.

III. And be it further enacted, That it shall and may be  
Rules may be  
made to pro-  
vide forms of  
conveyance,  
&c. lawful to and for any such Society, in and by the rules thereof, to describe the form or forms of conveyance, mortgage, transfer, agreement, bond, or other instrument which may be necessary for carrying the purposes of the said society into execution; and which shall be specified and set forth in a schedule to be annexed to the rules of such Society, and duly certified and deposited as hereinafter provided.

IV. And be it further enacted, That all the provisions of a  
Provisions of  
Friendly So-  
ciety Acts of  
10 Geo. 4 c.  
56. and 4 & 5  
W. 4 c. 40,  
extended to  
this Act. certain Act made and passed in the tenth year of the reign of His late Majesty King *George* the Fourth, intituled, *An Act to consolidate and amend the Laws relating to Friendly Societies*, and also the provisions of a certain other Act made and passed in the Fourth and Fifth years of the Reign of His present Majesty King *William* the Fourth, intituled, *An Act to amend an Act of*

*the tenth year of his late Majesty King George the Fourth, to consolidate and amend the Laws relating to Friendly Societies, so far as the same, or any part thereof, may be applicable to the purpose of any Benefit Building Society, and to the framing, certifying, enrolling, and altering the rules thereof, shall extend and apply to such Benefit Building Society and the rules thereof, in such and the same manner, as if the provisions of the said Acts had been herein expressly re-enacted.*

Receipt endorsed on mortgage to be sufficient discharge without reconveyance.

V. And be it further enacted, That it shall be lawful for the trustees named in any mortgage made on behalf of such societies, or the survivor or survivors of them, or for the trustees for the time being, to endorse upon any mortgage or further charge given by any member of such society to the trustees thereof for monies advanced by such society to any member thereof, a

receipt for all monies intended to be secured by such mortgage or further charge, which shall be sufficient to vacate the same, and vest the estate of and in the property comprised in such security, in the person or persons for the time being entitled to the equity of redemption, without it being necessary for the trustees of any such society to give any reconveyance of the property so mortgaged, which receipt shall be specified in a schedule to be annexed to the rules of such society, duly certified and deposited as aforesaid.

Not to authorize investment of funds in Savings Bank.

VI. Provided always, and be it further enacted, That nothing herein contained shall authorize any Benefit Building Society to invest its funds, or any part thereof, in any savings bank, or with the Commissioners for the reduction of the national debt.

Benefit of Act to extend to all societies established prior to June, 1836.

VII. And be it further enacted, That all Building Societies established prior to the first day of *June*, One thousand eight hundred and thirty-six, shall be entitled to the protection and benefits of this Act, on their present rules being duly certified and deposited as directed by the said recited Acts; and no such Society shall be entitled to the benefits of this Act until their

rules shall have been so certified and deposited; and that no such Society shall be required to alter in any manner the rules under which they are now respectively governed.

Exemption from stamp duties.

VIII. And be it further enacted, That no rules of any such Society, or any copy thereof, nor any transfer of any share or shares in any such Society, shall be subject or liable to or charged with any stamp duty or duties whatsoever.

Public Act.

IX. And be it further enacted, That this Act shall be deemed a Public Act, and shall extend to *Great Britain, Ireland, and Berwick-upon-Tweed*; and be judicially taken notice of as such

by all judges, justices, and other persons whatsoever, without the same being specially shown or pleaded.

THE \_\_\_\_\_

PERMANENT BENEFIT BUILDING SOCIETY,

ON MUTUAL PRINCIPLES.

ESTABLISHED THE \_\_\_\_\_, 18\_\_\_\_,

PURSUANT TO ACT OF PARLIAMENT, 6 & 7 WM. 4, c. 32,

PASSED FOR THE ENCOURAGEMENT AND PROTECTION OF BENEFIT BUILDING  
SOCIETIES.

Subscription Shares \_\_\_\_\_ per month for \_\_\_\_\_ months, to realize  
£\_\_\_\_\_ and Bonus.

[And by smaller Monthly Subscriptions for longer terms, as per Table.]

Deposit Shares £1 each.

Any Member may hold any number of Shares.

The Investment of the Funds is restricted to security  
of Lands and Houses, producing good Rates of Interest,  
with an entire absence of Liability.

[Here insert the names of the Trustees, Directors, and Officers.]

Benefit Building Societies, established on the Permanent System devised  
by Mr. Scratchley more than 20 years ago\* on Mutual principles, have been  
found by experience to combine the greatest advantages with complete  
security to the Members.

\* [See Treatise on Benefit Building Societies.]

The following are some of the purposes or objects which, in this Society, may be secured :—

1st.—*Provisions for Old Age* may be secured, payable at the end of any number of years, by a person joining the Society as an Investor.

2nd.—Houses can be *purchased*, instead of being hired, by an inconsiderable increase of annual outlay.

3rd.—Heads of large commercial establishments and Ministers of parishes may secure more benefit for their dependents and the humbler members of their charge, than can be obtained by any effort, however extensive, of public charity.

4th.—Leaseholders, such as Farmers and others, desirous of providing for the *fine* on renewal of their Leases (if for terms certain), can do so by joining this Society as Investors, and subscribing for such a number of Shares (to be received in full at the required time) as will meet the amount desired. This obviously would be to many an easy mode of providing for what is now often felt to be a difficult and onerous charge.

5th.—The Premiums or Fees for placing Boys as Apprentices or Articled Clerks to Solicitors, Engineers, &c., can be obtained in a similar way.

6th.—*Marriage and Family Endowments* of all kinds can be secured.

7th.—Benevolent Institutions and Religious Societies can borrow funds for the erection of Churches, Almshouses, Schools, Chapels, &c., or for the immediate paying off of Debts, and the amount borrowed can subsequently be repaid by charitable contributions periodically collected.

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[Here might follow Arts. 6, 56, 57, 58, and other extracts from the *Treatise*, as being explanatory of the Building Society system.]

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The Members in this Society consist of the Holders of Shares of Three Classes :—

Class I.—SUBSCRIPTION OR UNADVANCED SHARES.

Class II.—DEPOSIT SHARES.

Class III.—BORROWING OR ADVANCED SHARES.



## CLASS I.

## SUBSCRIPTION OR UNADVANCED SHARES.

The Investing Members, who hold Shares of this class, pay the Subscription per month, as set forth in the following Table, for the term of years selected by them as best suiting their convenience, and their Subscriptions are accumulated at Compound Interest :—

Term of Years.	Monthly Contribution.

The Profits of the Society are divided among the Investors and Borrowers. Investors may either take their proportion in the shape of a Bonus on the Shares, payable in addition to its accumulated full amount, at the end of the agreed term of years ; or may apply it to make the Share *realized at an earlier date* than that originally expected.

The following are examples of Bonuses recently declared by Societies established on this system :—

1 Name of Society.	2 Date of Bonus Division.	3 Term of Years.	4 Subscription.	5 Amount of Share.	6 Amount actually re- ceived by members in- cluding bonus	7 Profit to Members.	8 Rate of Com- pound Interest realized.
B .....	1867	10	6/6 per month	£ 50	65 18 6	26 18 6	11
S .....	1866	12	10/0 „ „	100	117 11 2	45 11 2	8½
B .....	1868	14	8/6 „ „	100	123 0 6	51 12 6	8
B .....	1868	12½	12/6 per quarter	50	50 0 0	18 15 0	7¾
H .....	1869	13	10/0 per month	100	121 6 0	43 6 0	7
N .....	1868	14	10/0 „ „	120	127 9 2	43 9 2	6

These results, it will be seen, are more than could be obtained from any other investment. For example, if Subscriptions, as they became due, had been paid into the Post Office Savings Bank, only  $2\frac{1}{2}$  per cent. interest, or less than one-third of the average of the above specimen cases, would have been allowed.

If any investing Member, before the time selected by himself for completing his Subscriptions, should find he cannot continue his payment and desire to withdraw the amount to his credit, he would receive back the sum paid by him (without deduction) and a further amount for interest, according to the length of time he had been a subscribing Member. The Table for Withdrawals is so calculated as to give the greatest relative advantage to those who remain longest in the Society, by increasing the withdrawal rate of interest allowed, according to the years' standing of the Share.

## CLASS II.

### DEPOSIT SHARES.

To meet the convenience of persons, having large or small sums of money in hand, ready to invest, the Society will issue any number of Shares of £1 each, upon which no further payment is required or liability incurred.

Interest will be paid half-yearly on such Shares, at the rate certified each year by the Consulting Actuary to have been realized by the Society and applicable thereto.

The Deposit Shares may be withdrawn at any time, without deduction, upon short notice.

## CLASS III.

### BORROWING (OR ADVANCED) SHARES.

The Society lends Money upon the following securities :—

- 1.—Freehold Houses or Land, already the property of the Borrower.
- 2.—Houses or Land to be purchased at Auction or otherwise.
- 3.—Houses to be built, or in course of erection.
- 4.—Copyhold Property.

At each Monthly Meeting the amount available for Loans is offered to the Members, and those bidding the highest amount of Premium are declared entitled to Advances.

The Board fix, from time to time, with the advice of the Consulting Actuary, a minimum amount of Premium, below which no Bidding will be accepted.

The Loans are repayable by Monthly or Quarterly Instalments, spread over a term of years, to be selected by the Borrower. The repayments include Principal and Interest, which is calculated at — per cent. on the Balance of Principal due each year.

Table of Repayments for an Advance of £100.		
Term of Years.	Monthly.	Quarterly.

In many cases the Monthly Repayments (exclusive of the Premium or Bidding) would be little in excess of the Rent of the House purchased. For example: a Member borrowing £300 (less Premium) on the 14 years' term, to assist him in the purchase of a House worth £30 a-year, would only be required to pay to the Society three times ——— or £——— per month, or £——— per annum, and the House would become his own, Rent-free, at the expiration of the term.

If desired by any Borrowing Member, the amount of the Premium bid by him for his Advance need not be deducted from the Loan, but may be paid by a proportionate additional Monthly or Quarterly Contribution.

Any Borrower desiring to redeem or pay off his Mortgage before the expiration of the agreed term, will be allowed full Discount off the future Repayments.

Upon redemption, or on completion of the Repayments, the Mortgage Deed is endorsed with a Receipt, signed by the Trustees of the Society, and

the Property becomes vested in the Borrower by Act of Parliament, without the expense of Conveyance or Assignment.

By the Rules, the Borrowers are entitled to share in the Profits of the Society, as declared triennially by the Consulting Actuary ; and their allotment of Profit or Bonus may either be drawn out by each Member on the completion of his Mortgage term, or may be applied earlier in proportionate diminution of the Repayments during the latter years of his Mortgage, as the Directors may think the circumstances of the Society warrant.

[Here should follow Forms of Application for Shares and for Advances, with Instructions for filling them up, Notice of Hours of Meeting, &c.]



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- 1.—*For the "TIMES" Leading Article, 2nd October, 1860,*  
[See pages 22—24.]
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- 2.—*From the "ECONOMIST," January 5th, 1861.*

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3.—From the "WESTMINSTER REVIEW," January, 1861.

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4.—From the "LONDON QUARTERLY REVIEW." October, 1860.

"The subjects discussed are of great importance in our very complex condition of society, and the author deserves the thanks of the public for his luminous statements and judicious suggestions. The remarks on the moral urgency of life assurance ought to be seriously perused by our young men, by fathers of families, and, in fact, by all whose family incomes are dependent upon the life and health of an individual. The work ought to be found on the shelves of every educational institution and reading-room."

5.—From “L'ETUDE SUR LES CAISSES D'EPARGNE,” by M. Auguste Visschers, Membre du Conseil des Mines, Belgique.

“ D'un seul mot, nous pouvons, pour compléter notre pensée, renvoyer le lecteur au remarquable ouvrage de M. Scratchley. On y trouvera, entre autres, l'analyse de l'enquête ouverte, en 1858, devant un comité de la Chambre des Communes (pp. 17 et suiv.); l'histoire des fraudes commises, de 1848 à 1851, dans les caisses d'épargne Anglaises (pp. 49 et suiv.); les remèdes proposés (pp. 76 et suiv.); les améliorations à apporter dans le régime intérieur des caisses d'épargne (pp. 90 et suiv.); un examen des causes qui ont produit le déficit actuel dans le fonds des caisses d'épargne d'Angleterre (pp. 115 et suiv.); un plan de réorganisation financière de ces institutions (pp. 165 et suiv.); l'exposé du projet tendant à utiliser les bureaux de poste comme auxiliaires des caisses d'épargne (pp. 215 et suiv.); l'examen du système de banques de dépôt, ou de caisses d'épargne indépendantes, en dehors de la garantie du Gouvernement (pp. 264 et suiv.); enfin, l'exposé et la discussion du projet de M. Gladstone, en 1860 (pp. 295 et suiv.).”

6.—From Article on Building Societies in “HOUSEHOLD WORDS,” November, 1851.

“For the descriptions we have been able to give, we are indebted; to the perusal of two books, published in the present year, which we urge upon the study of all those to whom is entrusted the responsibility of taking active part in the formation or management of Building and Land Societies. . . . For the Finance, and all the minute details which go to the full practical understanding and management of these undertakings; for a distinct marking of the rocks and shoals that lie in the projector's way, and for the tracing of his proper track, we refer the reader to the new edition, now published, of a work on ‘*Industrial Investment and Emigration*,’ by Mr. Scratchley.”

7.—From the “EDINBURGH REVIEW,” April, 1852.

“It is obvious that the desirableness of *Industrial Societies* as a mode of investment for the humbler classes, must depend entirely upon the soundness of the principles upon which they are based, and the strictness with which these principles are adhered to in the management. Much money has, no doubt, been lost and spirited away in these undertakings, and none should be trusted



by the poor that are not duly certified and registered. But, when this precaution is observed, we believe they deserve the encouragement and favour they have received. Mr. Scratchley's work is a careful exposition of the rules which should guide their constitution and management, drawn up by a competent and experienced man."

8.—*From the "JOURNAL DES ECONOMISTES," April, 1861.*

"M. SCRATCHLEY a publié, sur les institutions de prévoyance, un ouvrage qui a fait une véritable sensation de l'autre côté du détroit. Chacun sait bien, dans ce pays où l'actif des caisses d'épargne s'élève à plus de 900 millions, et celui des *Friendly Societies* à près de 300, la compétence toute particulière de M. Scratchley."

9.—*From the same Journal, October, 1854.*

"Ce livre, d'un caractère essentiellement pratique, et qui ne s'adresse en apparence qu'à un petit nombre de lecteurs, a obtenu en Angleterre le succès assuré aux ouvrages utiles, et dont il était très dignes. . . . Mr. Scratchley est bien au courant de l'économie politique: il en connaît les principes et les développements et les applique sans prétention et sans effort, dans les deductions claires et rigoureuses que contient son livre. La partie purement arithmétique de l'ouvrage est placée dans un appendice important où se trouvent non-seulement des démonstrations théoriques, mais des tableaux et des comptes-faits, propres à éclairer les praticiens proprement dits pour lesquels ce livre, écrit par un homme dont l'intelligence et l'instruction sont supérieures au sujet qu'il a traité, est un guide sûr et éclairé. Puisse nous avoir promptement besoin en France d'un livre pareil; et lorsque nous en aurons besoin, puissions-nous trouver un auteur qui l'écrive avec autant de distinction, de clarté et de sens pratique, que M. Scratchley!"

10.—*From the "READER," July 23, 1864.*

"The existence of savings banks dates from the beginning of the century; but there was no institution of the kind in London until the year 1816, when the St. Martin's Place Savings Bank, the deposits in which now amount to upwards of a million-and-a-half, was begun 'in a very humble way in a room over a butcher's shop in Panton Street, Haymarket.' From that time the progress has been rapid. Those who wish to trace it in detail cannot do better than refer to Mr. Scratchley's volumes. They will find in



them the fullest and most accurate information, not only upon the particular point we are dealing with, but upon the whole subject of provident investments of every description and for every class."

11 —*From the "RAILWAY & COMMERCIAL ALMANACK," for 1865.*

"The ignorance existing upon this very important point (the laws of sickness) is not confined to the founders and managers of societies. The differences of opinion existing amongst actuaries and scientific men are perfectly astounding. The laws of mortality are defined clearly enough,—those of sickness are almost *in nubibus*. The only really practical approach to an estimate has been made by Mr. Arthur Scratchley, to whose labours, it is fair to say, the public owes more in connexion with this subject than to those of any other living writer.

"We feel bound to add, however, that besides his valuable contributions towards the elaboration of a true law of sickness, Mr. Scratchley has, in other important respects, done more than any other man to diminish the difficulties of such a voluntary improvement in the system of Friendly Societies, as would impart to them the necessary quality of security without minimising the area of their benefits. He has laid down a code of excellent precautions against fraud of all kinds; he has not only suggested, but, through the operation of the Friendly Societies' Institute, actually established, an efficient channel of audit and revision. Many years ago he powerfully advocated the grant of small assurances through the medium of the savings banks, and with respect to charges, benefits, management of funds, limitation of allowances according to age, and other vital points, he has indicated a course of proceeding, which, whilst open to discussion on some of its details, is the most searching, complete, and useful that has hitherto been propounded, because, whilst pregnant with facts, it seems scrupulously to eschew fancy. We have no doubt that, should the whole subject of Friendly Societies be ever comprehensively dealt with, the results arrived at and proved by this eminent actuary will form the basis of important action."

12.—*From "LE PAUPERISME ET LES ASSOCIATIONS DE PRÉVOYANCE," par Emile Laurent. (Ouvrage Couronné par l'Institut). 2nd Edition, 2 vols., Paris, 1865.*

"Lord Shelburne, aujourd'hui marquis de Lansdowne, a proposé dans une des sessions dernières un bill dont le type se retrouve du reste dans un projet présenté en 1818. Les hommes spéciaux d'Angleterre, et notamment MM. Tidd-Pratt et Scratchley, attachent une importance tout à fait particulière à ce bill et

désirent bien vivement que son examen soit repris. Le bill Gladstone, qui a été, nous venons de le voir, l'occasion d'un si grand orage, est lui-même,—détail assez peu connu en France,—la reproduction d'un bill présenté à la Chambre des communes, en 1807, par M. Whitbread, bill qui a même inspiré aussi le fameux acte relatif aux *post-office-savings-banks*.—Ce bill de 1807 est commenté tout au long dans le *Traité* de M. Scratchley sur les *savings-banks*, p. 239 à 250."

"En Angleterre, les plus grandes efforts des hommes spéciaux ont porté—sans succès jusqu'à présent, nous devons le dire—vers l'affiliation des Friendly Societies aux Compagnies spéciales d'Assurances afin de mieux garantir tous les risques. Le bill présenté en Juillet 1854 par M. Fitzgerald, à l'instigation de M. Scratchley, contient la clause suivante :—Toute Friendly Society ou toute Compagnie d'Assurances sur la vie peut, avec le consentement d'un Actuary, et d'après tels termes qu'il approuvera, contracter avec une Friendly Society quelle qu'elle soit, l'engagement de prendre sur son compte toutes les obligations d'une autre Société, &c. Tel est donc en Angleterre l'avis des hommes qui font le plus autorité en ces matières.

"Pour ceux qui repousseraient complètement la forme actuelle de la participation des classes possédantes et des autres classes dans les cadres des associations de prévoyance,—nous allons dire comment en Angleterre un homme très-pratique, connaissant bien le caractère de l'ouvrier, en même temps que le génie de l'institution mutuelle, comprend la juxtaposition dont il s'agit et la conseille à ses compatriotes."

13.—*From the* BULLETIN DE LA COMMISSION CENTRALE DE STATISTIQUE POUR LE ROYAUME DE BELGIQUE, tom. 8, 1860.

"On sait que, dans la Grande Bretagne, des agents particuliers appelés actuaries sont chargés de dresser ou de reviser les tarifs à l'usage des compagnies d'assurance sur la vie et des sociétés de secours mutuels qui demandent au Gouvernement l'approbation de leur statuts. Nous reproduisons les chiffres extraits des tables dressées par deux de ces agents d'un ordre supérieur : M. Arthur Scratchley et M. John Tidd Pratt."

14.—*From the* "ZEITSCHRIFT DES KÖNIGLICHEN PREUSSISCHEN STATISTISCHEN BUREAUS," (*Official Journal of the Royal Prussian Department of Statistics*) January and February 1861.

"Das äusserst schätzbare Werk von A. Scratchley über Sparcassen." "Seine bereits citirten, äusserst gründlichen Werke über die englischen Sparcassen."

## 15.—From the "LAW TIMES," Nov. 3, 1849.

"In a valuable work lately published by the eminent Actuary, Mr. Scratchley, we find the following curious properties which have been deduced by him respecting the *Doubling of money at compound interest*:—[See pages 17—19, Appx. 6—10, and Table 8, *Treatise on Benefit Building Societies*.]

"When a sum of money increases to double its value by the accumulation of compound interest, the analytical investigations assume a peculiar form, from which the following theorems have been deduced as bearing on the system of many Building Societies.

- 1.—For all rates of interest not exceeding 10 per cent.:—  
*The number of years in which a single sum will become double in amount by the accumulation of compound interest, may be found in round numbers by dividing 70 by the rate of interest per cent., and taking that whole number which is nearest to the quotient obtained.*

"The accuracy of this theorem may be judged of by Table 8, but the property is valuable as furnishing a simple rule, and one easily remembered. Thus:

If the rate of interest be		} then the number of years will be	} $\frac{70}{2}$ nearly, or 35 years	
2 per cent.				
$3\frac{1}{2}$	"	"	$\frac{70}{3\frac{1}{2}}$	" " 20
5	"	"	$\frac{70}{5}$	" " 14
7	"	"	$\frac{70}{7}$	" " 10
10	"	"	$\frac{70}{10}$	" " 7

which agree with the whole numbers given by the table.

- 2.—*If a sum of money be borrowed for such a time, that if unpaid it would become doubled by the accumulation of compound interest, then the debtor can liquidate his debt with interest in that time, by an annuity equal to twice one year's interest on the sum borrowed:—If the time be a certain number of years and days, the last payment of the debtor will be a fractional portion of the year's annuity, proportionate to the fractional number of days.*

"Thus, if £60 be borrowed for 14 years (which is the time in which money will double at 5 per cent.) then the debt can be repaid (including principal and interest at 5 per cent.) by an annuity at the rate of £6 a year, or 10s. a month—since £3 is the interest on £60 at 5 per cent. This explains the principle of Building Societies established for 14 years.

"The extension of the above theorems to the case of money increasing to several times its original value is even more



remarkable. It is found that:—If a sum of money be borrowed for such a time, that (if unpaid it would amount to  $f$ -fold its original value) then the annuity which would pay it off, principal and interest, in that time, is equal to  $f$  divided by  $f$  less one times one year's interest on the debt.

“The accuracy of the theorem requires that the intervals at which the instalments of the annuity are paid, should be aliquot parts of the whole period over which it extends. When the interval is small, as in the case of *monthly* payments, the formula may be applied without reservation, and differs by an inappreciable quantity from the truth; and even for yearly payments the error is practically of no importance.”

16.—“LAW TIMES,” *May 14th*, 1864.

“Mr. Scratchley has compressed into very small compass, not only an alphabetical digest of about 200 cases relating to life assurance, but also a lengthened argument advocating some amendments in the law that he considers desirable, with a draft of a Bill for carrying them out. Its objects are explained to be to enable policies of life assurance to be specially secured for the widow and children of an assurer by nomination, without the necessity of a trust-deed, and to render policies of assurance assignable at law, and that by simple indorsement.

“Arguing from the importance of life assurance to those desirous of making provision for their families, and the legal difficulties at present incident to the contract, Mr. Scratchley urges their removal by the adoption of a principal of nomination. He desires to place the nominor in the same position as if he had made the policy the subject of a trust, however small the amount of his policy may be. He points out the circumstances under which an assurer can now settle his policy, and shows that a poor man with a small policy cannot possibly avail himself of that mode of providing for his family. The author recommends that the assurance societies should be empowered to act as trustees for the children who may be nominated, should they be under age when the death of the assured happens. For securing the interests of creditors, Mr. Scratchley further proposes that policies should be rendered assignable at law, and that the assignment may be made either in the ordinary form, or by an indorsement on the policy; but that, in either case, notice of the assignment must be acknowledged by the assurance office on the back of the policy. It is probable, as the author suggests, that these amendments in the law would materially extend the beneficial operation of life assurance.

“The portion of Mr. Scratchley's handy-book which will be of most service to legal practitioners is that which gives an



alphabetical digest of the present law on the subject of life assurance. How much such a work was required may be gathered from the fact that one-half of the case law contained in this handy-book is so recent as not to be included in the last published formal treatise on the subject, brought out only a few years ago. The arrangement, though as a matter of course very compressed, is very convenient for practical purposes. The cases are marshalled under the headings most convenient for reference; the leading points are printed in large type; then in small type is subjoined a note of the history of the cases in which the point has been established, with an extract from the judges' remarks in delivering their opinion, or some apposite practical observation. The cases upon 'Amalgamations' are cited. The important points of 'Forfeiture' and 'Fraud' are also discussed, and the recent leading case is cited at length. Insurable Interests are also discussed. In reference to Indisputability, the author recommends that 'policies of a modified indisputable form should be granted, to become unchallengeable after having been five years in existence. Of course, no policy, however framed, can be sustained if fraudulently obtained; but it is a valuable improvement in life assurance practice for the offices to renounce their vexatious power of resisting the payment on the ground of error without fraud. If it causes them to be more vigilant in enquiry, so much the better.' All the cases appear to be digested to the very latest date, and the American, Scotch, and Irish authorities have not been overlooked. Though Mr. Scratchley disclaims any intention to do more than to provide a handy-book for non-professional readers, especially the agents and policy-holders of life offices, the work is one which will be found exceedingly useful to the Legal Profession, as it meets a want hitherto entirely unsupplied."

17.—"LAW MAGAZINE AND REVIEW," *May*, 1864.

"The title of this book points out its use, and the name of Mr. Scratchley is sufficient to guarantee its value."

18.—"JURIST," *August 13th*, 1864.

"In the small compass of thirty-five pages, Mr. Scratchley has digested nearly 200 cases relating to life assurance, and placed them under their respective heads in alphabetical order. Although intended for the non-professional reader, there is little doubt of its proving useful to the lawyer. Mr. Scratchley has in view the amendment of the law, as it bears upon life assurance generally, and has embodied his proposed reforms in the draft of

a Bill, which we will give entire, and refer the reader to the book itself for the author's comments."

19.—"SOLICITOR'S JOURNAL," *April 16th, 1864.*

"The main design of this publication is to illustrate and explain the objects of a bill proposed by the author, for enabling policies of life assurance to be specially secured for the widow and children of an assurer by nomination, without the necessity of a trust-deed, and for rendering policies of assurance assignable at law, and that by simple endorsement. For the better understanding of the subject, and with the view of making some suggestions for the amendment of the law as it bears upon life assurance generally, a concise alphabetical digest of the leading cases, with comments upon the principles involved in and decided by them, has been added. The work has been prepared chiefly for non-professional readers, who may be interested in the subject of life assurance, and especially for agents and policy-holders in life offices."

20.—"DEUTSCHE VERSICHERUNGS-ZEITUNG," *Berlin, 17th April, 1864.*

"Mr. A. Scratchley, einer unserer gediegensten Actuare, Verfasser mehrerer Werke über Versicherungs- und Wohlthätigkeits-Anstalten, hat unter dem Titel: 'Lebens-Versicherungs-Gesetz' (Life Assurance Law) eine Zusammenstellung von Entscheidungen verschiedener englischer Gerichtshöfe über wichtige, die Lebensversicherung berührende Streitpunkte herausgegeben. Das Buch enthält beinahe 200 Processe. Im ersten Capitel erläutert Herr Scratchley den Zweck eines Gesetzentwurfes, welchen er dem Parlamente einzureichen beabsichtigt. Nach den jetzt bestehenden Gesetzen kann die Versicherungssumme aus einer vom Familienvater zu Gunsten seiner Familie ausgestellten Police von den etwaigen Gläubigern des Versicherten in Anspruch genommen werden. Es leuchtet also ein, dass durch die Versicherung die Absicht des Versicherten nur dann erlangt werden kann, wenn er bis zu seinem Ableben in guten und geregelten Verhältnissen geblieben ist. Hier wünscht Herr Scratchley Reformen herbeigeführt und im Wege der Gesetzgebung derartige, zu Gunsten der eigenen Familien ausgestellte Policen von den Geschäftszufälligkeiten ausgeschlossen zu sehen. Durch die Adoption dieses Entwurfes würde die Lebensversicherung unter den kleinen speculativen Handelsleuten bedeutend gewinnen. Bisher waren dergleichen Leute zur Versicherung ihres Lebens nicht zu bewegen, weil bei einem etwaigen Vermögenswechsel die Versicherungssumme stets ihren Gläubigern zugesprochen wurde."

21.—“LE DROIT COMMERCIAL,” *Paris, 7th June, 1864.*

# LES ASSURANCES SUR LA VIE. (1)

“Le développement pratique qu’ont reçu en Angleterre les assurances sur la vie et la direction qu’elles y ont créée dans les habitudes du public anglais n’ont pas été sans exercer une certaine influence dans notre pays, si l’on en juge par le nombre des affaires qui s’y traitent dans toutes les conditions possibles de la vie.

“Ce ne sera pas sans étonnement que l’on apprendra que la législation anglaise quoique les mœurs et les lois (2) de ce pays y aient beaucoup encouragé ce genre d’institutions, contient des défauts qui n’existent pas chez nous ; et sans avoir l’intention de marquer ici des préférences en faveur des compagnies de l’un ou de l’autre des deux pays, nous ne pouvons cependant taire qu’en 1862, une pétition signée par M. Scratchley et sept cent cinquante membres de sociétés d’assurance sur la vie fut présentée au Parlement anglais, qui demandait à faire introduire dans le régime des assurances certaines améliorations dont nous jouissons depuis longtemps dans notre pays. On peut juger de l’importance des réformes demandées par l’énumération de certaines propositions du projet de loi anglais.

“Ainsi l’on demandait que le titulaire d’une police eût le pouvoir de nommer sa femme ou ses enfants pour recevoir l’argent assuré par la police.

“Une autre proposition non moins importante avait pour but de rendre transférable une police par la simple voie de l’endossement, comme dans les effets de commerce, sans qu’il fût besoin de faire intervenir au décès de l’assuré les représentants de ce dernier venant donner quittance de la somme assurée.

“Il ne faudrait pas cependant induire de cette pétition au Parlement anglais que la législation y fût tout à fait imparfaite dans ce pays, car c’est là que nos compagnies françaises ont été puiser elles mêmes les meilleurs précédents en matière d’assurance. La législation anglaise est basée sur le droit commun le plus rationnel, et les principes qu’elle admet ne pourraient être récusés par aucune des nations progressives. Nous en avons vu les preuves dans le digeste, ou résumé encyclopédique que M. Scratchley a joint à ses considérations préliminaires sur les

(1) Nous avons puisé nos renseignements dans un excellent manuel récemment publié à Londres, et qui nous paraît être un guide très-sûr et très-pratique à recommander aussi bien aux compagnies d’assurance qu’aux juriconsultes et aux hommes du monde. Voici son titre : *Treatise on Life Assurance, by Arthur Scratchley, Author of the Treatises on Savings Banks and Building Societies.*

(2) En effet la loi d’impôt sur le revenu (s. 54, of the *Income Tax Act 16 and 17 Vict. c. 34.*) exonère de l’impôt l’argent payé comme prime d’assurance sur la vie de l’assuré ou de sa femme. C’est le sixième du revenu annuel qui est pris comme base de l’exonération. La loi anglaise récompense ainsi la prévoyance et la sagesse du père de famille.



améliorations à introduire dans la loi anglaise sur les assurances. A l'appui de chaque fait classé dans un ordre alphabétique, l'on trouve des documents précieux de la jurisprudence anglaise. Nous les énumérons ici, dans l'hypothèse que chacun pourrait y retrouver, en se référant au livre, la solution d'une question qui l'intéresse : L'agence vis-à-vis de l'assuré, les fusions de compagnies d'assurance, la faillite, les réticences, le contrat d'assurance, le créancier, la mort, le dette, le débiteur, le legs, les maladies, les primes extra, les faux, la fraude, la loi Gambling, les héritiers, le mari, la loi d'impôt sur le revenu, la police non contestable, l'enfance, l'intérêt de la vie, le prêt, la matérialité ; le médecin assistant, le faux rapport, le meurtre, les services mutuels, le père, la police.

" Sous ce dernier chapitre nous devons emprunter à l'auteur du manuel les citations suivantes, qui sont motivées par une certaine analogie avec l'affaire de La Pommerais.

" § 83. ' Si une personne contracte une assurance sur la vie, et que postérieurement elle commette un crime capital, et qu'après la condamnation elle soit exécutée, ses représentants et succession ne pourront dans ce cas recouvrer la somme assurée par la police.' Cette doctrine est confirmée par un arrêt rendu par la Chambre des lords dans l'espèce de la *Société amicale* contre Bolland dans une police faite sur la vie de Fauntleroy, qui fut pendu pour crime en 1824.

" § 91. ' Dans le cas où la personne assurée a été assassinée dans le but d'obtenir et de réaliser le bénéfice de la police, la police doit être déclarée nulle.'

" A l'appui de ce principe, le manuel cite l'affaire de la Société d'assurance du prince de Galles contre Palmer, cet illustre empoisonneur qui fit assurer plusieurs des siens pour des sommes considérables avant de les empoisonner. (1858. *The Rugeley Murders*.)

" Les autres mots du digeste sont : les primes, la réassurance, le rétablissement de la police après déchéance encourue, le sceau, les fausses indications, les mandataires, la garantie, la femme.

" Nous ne terminerons pas cet aperçu sans proclamer bien haut que, quelque graves qu'aient pu être les combinaisons de convoitise et de cupidité qui ont germé dans l'imagination déréglée de certains scélérats, et qui, Dieu merci ! ont toujours trouvé leur juste châtiment l'assurance sur la vie n'en est pas moins un acte moral et de sage prévoyance.

" De bons esprits l'ont dit déjà avant nous, et nous répétons avec M. de Courcy : ' l'assurance sur la vie, qui est un devoir pour le père de famille sans fortune exerçant une profession libérale, est aussi un acte de sage et paternelle administration pour le propriétaire, soit qu'il veuille préserver de la division son domaine d'affection, soit qu'il n'ait d'autre but que d'augmenter le patrimoine de ses enfants et de faciliter le partage de sa succession."



22.—“PALL MALL GAZETTE,” *June 29th, 1867.*

“THE LAW OF LIFE ASSURANCE.

“That the law affecting life assurance is of a fragmentary, uncertain, and unsatisfactory character admits of little or no question. It can hardly be said to have any derivation whatever from the statute law, except in so far as the Gambling Act of 1774 is concerned, but has grown up as the result of successive decisions of our courts on isolated points which have been raised from time to time. Yet there are few if any transactions in which it is more desirable that the law should be clear, straightforward, and equitable, inasmuch as whatever difficulties supervene on the contract of life assurance, they have to be adjusted after one of the parties thereto has been removed out of the reach of appeal. Mr. Arthur Scratchley, whose intimate knowledge of the legal and other technicalities of the whole subject is unquestionable, proposes a bill to be submitted to Parliament for amending the law of life assurance in a direction wherein the present system operates very materially to hinder large numbers from insuring their lives.

“Mr. Scratchley proposes first to enable the holder of a life policy, by a mere endorsement to be acknowledged by the assurance office, to nominate his wife, or any one or more of his children or relatives, as the person or persons to whom in the event of his death the sum assured by the policy is to be paid; secondly, to enact that any policy-holder who desires to nominate infants to receive the amounts insured may arrange with the assurance company that in case of his death before they come of age, the company shall act as trustee on their behalf, holding the money at interest, and paying it in such a manner as the nominor may direct; and lastly to legalize assignments of life policies for the benefit of creditors by a simple endorsement thereon, coupled with notice to the assurance office, so that all rights, legal and equitable, arising out of the policy shall be vested in the assignee.

\* \* \* \* \*

“Mr. Scratchley believes that the adoption of his plan would bring a large accession of business to the assurance offices, while we can readily understand that it would obviate many hardships now accruing to the families of policy-holders. It is admitted that this is but part of the improvement necessary to perfect the law of life assurance; assurers will undoubtedly require, sooner or later, that all policies shall be free from restrictive conditions, except the due payment of premiums, and that they shall be “indisputable,” so that no objection whatever can be raised after they are once issued; but perhaps Mr. Scratchley is wise to proceed tentatively.”



# MR. SCRATCHLEY'S TABLE OF THE SICKNESS

EXPERIENCED BY MEMBERS

OF

## FRIENDLY SOCIETIES,

*With the Leading Article of the "TIMES" Newspaper  
thereon.*

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NOTICE TO MANAGERS OF FRIENDLY SOCIETIES.

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*Mr. SCRATCHLEY will feel particularly obliged for Copies  
of the Annual Statements, and of all other printed  
documents, issued by Friendly or Benefit Societies.*

8a, WATERLOO PLACE,  
PALL MALL, LONDON.

## MR. SCRATCHLEY'S TABLE OF SICKNESS.

From the Government Returns, and personal investigations, extending over 23 years, the following Table has been prepared, shewing the Average number of Days' per annum Inability to Labour caused by Sickness, to each person, experienced by members of Friendly Societies in England and Wales, divided into :—

AGE.	Recoverable cases only.	AGE.	Recoverable and Irrecoverable cases together
15	6·23	15	6·38
20	6·57	20	6·88
25	6·60	25	7·06
30	6·97	30	7·74
35	7·37	35	8·60
40	8·14	40	10·14
45	9·31	45	12·54
50	11·25	50	16·48
55	14·36	55	22·82
60	19·41	60	33·10
65	27·57	65	49·72
		70	76·62
		75	120·14
		80	190·56
		85	304·50
			becoming permanent soon afterwards.

[This column includes the Sickness of those that die under a year's illness, and of those that recover.]

An examination of the above Table affords a ready means to members of Friendly Societies for recollecting the degree of Sickness, in the form of inability to labour, likely to be experienced. It is based on the following principles :—

1°.—That, from about the age when infantile diseases are past, and the nature of the constitution of the individual is becoming more declared,—at age 15,—there is on the average a certain *constant minimum rate of Sickness experienced per annum*.

2°.—That, at each age, every individual is exposed, according to his occupation, rank of life, &c., to

An excess of sickness, over such constant sickness,  $\left\{ \begin{array}{l} \text{increasing with} \\ \text{his years and} \\ \text{equal to} \end{array} \right\}$  the sum of the excesses in the 5th and 10th years preceding.

By way of illustration, in the above Table, the constant is  $6\frac{1}{3}$  days, and the rate per annum of sickness

at age 20,  $6\frac{57}{100}$  days, or  $\frac{37}{100}$  of a day excess over the constant ;

at age 25,  $6\frac{60}{100}$  days, or  $\frac{2}{5}$  of a day excess over the constant.



The excess at age 30 is the sum of these excesses, or  $\frac{77}{100}$  of a day. This, added to the constant, gives the rate of sickness  $6\frac{97}{100}$  days: and so for succeeding years.

The Mathematical formulæ show that the preceding law may be expressed in another form, as follows:

*The difference between the rate of sickness at any age and that 5 years younger,* equals *{ the difference between the rates of sickness for 5 and 15 years younger than the given age.*

Thus, the difference between the rates of Sickness at ages 35 and 30 is equal to the difference between 30 and 20.

If  $c$  be the constant minimum rate per annum;  
 $\sigma_x$  the rate experienced on the average at age  $x$ ;  
 and  $E_x$  the excess.

Then the Law of Inability to labour through Sickness consists in the relation that, for successive quinquennial periods,

$$E_x = E_{x-5} + E_{x-10} \quad . \quad . \quad . \quad (1)$$

or, in another form,

$$\sigma_x = \sigma_{x-5} + \sigma_{x-10} - c \quad . \quad . \quad . \quad (2)$$

If  $c$  be eliminated, we have

$$\sigma_x = 2 \sigma_{x-5} - \sigma_{x-15}$$

$$\text{or} \quad \sigma_x - \sigma_{x-5} = \sigma_{x-5} - \sigma_{x-15} \quad . \quad . \quad . \quad (3)$$

that is to say, the difference between the rates of sickness, at an interval of 5 years, is equal to the previous difference at an interval of 10 years.

From (1) we have by summation of the  $E$ 's

$$E_{x+5n} = u_n \cdot E_{x+5} + u_{n-1} E_x$$

in which the coefficients  $u_n$  are found by the relation

$$u_{n+1} = u_n + u_{n-1}$$

and are terms of the series,

$$1, 1, 2, 3, 5, 8, 13, 21, \text{etc.}$$

or, the probable rate of sickness  $5n$  years hence may be estimated in terms of two past experiences at an interval of 5 years.

## *Leading Article of the "TIMES."*

*2nd October, 1860.*

"THE 'Report of the Registrar of Friendly Societies' contains the usual testimony to two great evils—one an involuntary evil and the other a voluntary—sickness and drinking. Every Friendly Society has two faces, which it puts on, one for its members and the other for Mr. Tidd Pratt. Its members are attracted to it partly, of course, by the natural foresight of human contingencies, but very much, also, by the pomp and merriment of its festivals, with their brass bands, flags, processions, and all the holiday paraphernalia, together with the temporary occupation of the 'Saracen's Head,' the 'Red Lion,' or the 'Flying Horse.' This is the face that it puts on for its healthy members; but for Mr. Tidd Pratt it puts on the face of sad calculation, expressive of precaution against the calamities to which our mortal state is liable, of judicious estimates of rates of sickness, and care to provide means and resources against the dark day.

"Sickness is the first difficulty that Mr. Tidd Pratt has to deal with. The great and sad fact of human sickness is the basis of all Friendly Societies, which are founded for the object of providing for the wants of the sick man, out of the surplus earnings of the healthy man. But here an important question arises. How are you to define sickness? *What constitutes Temporary inability to labour?* This is a fundamental point to decide in laying down the scheme of a Friendly Society, and to ensure the success of its calculations—a correct estimate of sickness. If you are too rigid in defining it, you defeat the object of relief for which the Society is formed; if you are too lax in defining it, you occasion a too large and wholesale pull upon its funds, and so in time break up the Society. This is one great cause of the break-up of Friendly Societies—the disproportion of relieved sickness to the actual funds of the Societies. Fifty-two Friendly Societies broke-up last year, most of them from this reason. This is a fatal mistake then; and the first point such Societies should look to is a correct estimate of sickness, in order to bring it within their calculations, and make it fit in with their resources. But this is by no means an easy thing to estimate—the amount of sickness which fairly prevents a man from working.

"'In practice,' says Mr. Scratchley, in the 10th edition of his treatise, which Mr. Tidd Pratt quotes in this Report, 'it is found that certain degrees of ill-health do not produce immediate inability to work. Medical men affirm that labourers, who have not a Friendly Society to fall back upon, often go about their employment with disease of the heart, tubercles in the lungs and

other disorders of considerable severity. Among 120 Cornish miners in actual work, it was ascertained that only 63 had good health; the remainder being all the time suffering from incipient serious maladies.' A compromise is sometimes made under these circumstances, and 'men who have no sick money to draw, with the consent of the inspector or foreman, have their labour mitigated without stopping off work altogether.' Some distinction, then, is necessary, if these Societies are to fulfil their engagements, between '*Friendly Societies' sickness*' and '*Medical sickness*.' That is to say, the ill-health of a labouring man cannot be estimated exactly in the same way in which that of one of the upper classes of society would be. There is a difference of standard, and for this necessary reason, that a man who is comfortably off can afford to be more indulgent to his health than a poor man can. This is one of the trials of poverty, one of the grievances which attach to it as a natural dispensation, and the lot of the majority of the human race—viz., that a man must often work when he is not in sound working health. It seems hard, but there is nothing so inexorable as the necessity of society and the law which regulates the extent of such indulgence; the simple fact being this, that society, taking it as a whole rich and poor together, has not wealth enough to allow more than a certain amount of consideration to health upon a large scale. Labour is the wealth of society. It is a pure case of compromise between two great laws, an attempt to escape which would issue in injury to the labourer himself: for he, in common with the whole community, depends upon the amount of the sum total of labour. We may add, that the force of habit makes such a necessity, perhaps, less of a trial than at first sight it would appear to be. We see men everywhere working in spite of health—they choose to do so; the difficulty is to make them leave off work; they say they will die in harness. In all situations, and all kinds of employments and pursuits, it is the same. Your great engineer works till he drops; so does your lawyer, so does your scholar. Casaubon tried, at the earnest entreaties of his friends, a few days' idleness, but returned to his work again, with the remark, that it was easier to bear illness doing something than doing nothing. And the same rule applies to the labouring man with even greater force. He is a creature of habit more than the educated man is. There may be want of heart in the way in which he handles his spade or stumps after the plough, and he may be ready to drop sometimes in the course of a day's work; but would he be a bit happier leaning on his own cottage wall all day long? He would be a great deal more uncomfortable; what he dreads more than anything is being thrown upon himself. Work is his life, and his day is a blank to him without it—his mind becomes the haunt of dreary thoughts. On the whole, if he can work at all, his ill-health is a more manageable thing moving than standing still.



“TIMES” *Leading Article continued.*

“This principle operates a good deal as a natural and self-acting security to Friendly Societies. And with respect to the lazy, who would be disposed to take unfair advantage of the common purse, all that need be said is that care must be taken to judge correctly of the member’s ill-health, how far it impedes his power of work, and how far it still allows him to work. Mr. Scratchley, however, lays down an estimate of health drawn from the actual data of successfully-working Friendly Societies, and he puts it down in the shape of a law :—‘*There is a certain constant minimum rate of sickness per annum to which human beings, on the average of a large number of lives, are subject at any period of life. This rate depends upon race, climate, &c.,*’ but in this country he places it at between five and seven days’ sickness per annum. This is the first half of Mr. Scratchley’s law. The second is, that :—‘*at each age every individual is exposed, according to his occupation, rank of life, &c., to an excess of sickness over such constant sickness, increasing with his years, and equal to the sum of the excesses in the 5th and 10th years preceding. Thus the difference between the rates of sickness for ages 35 and 30 equals the difference between the rates for ages 30 and 20.*’ A table is constructed by Mr. Scratchley upon this principle, and the figures on it agree, within a decimal fraction, with the figures in the government tables. Such figures do not, of course, constitute an administrative guide to Friendly Societies, before whom the case has not come in the form of ultimate tabular results, but in the shape of actual particular sicknesses of particular persons, which must be decided on by the doctor: but they show what is the amount of recognised illness with which these Societies can afford to cope.

“The drinking side of the Friendly Society comes in for its notice in the report, and some curious disclosures appear in letters from complaining members of these Societies. The publican reigns in too many of them, and the system is, ‘Spend all the management fund each meeting night—it will be some recompense towards the loan of his room.’ . . . . .

. . . . . The accounts are managed adroitly, and the expenses of monthly meetings and annual feasts are ‘kept out of the balance-sheet altogether,’ as presented to Mr. Tidd Pratt, only the residuum of the ‘contributions for the management expenses’ which the payment of these irregular expenses have left appearing there. A mean must be struck in these matters. These Societies would not flourish unless they had something in the shape of a merrymaking accompanying them; but in too many the festive element triumphs over the serious one.”









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